

DEVELOPING THE 21ST CENTURY SKILLS THROUGH THE PRISM OF THE SDGS



IMPRESSUM

Primary School "Dubovac"

Maja Lukić Puškarić,
Andrea Grkovski-Zimet,
Krešimir Vojanić,
Kristina Fratrović ,
Snježana Marković-Zoraja

Primary School "Kiril Hristov"

Ekaterina Slavova Yovcheva,
Veneta Slavova Kirkovska

Primary School "Malina Popivanova"

Sanja Mihailova,
Gordana Janeva,
Hilda Panov,
Kate Stojanova,
Stojanco Dimitrov,
Aleksandar Shalevski

Civil Society Organization Eco Logic

Andrijana Zafirovska,
Nikola Neshkoski

CONCEPT

WHAT IS SUSTAINABLE DEVELOPMENT?

There are many definitions of sustainable development that can be interpreted depending on the perspective. Yet, each definition has a common term balance that refers to meeting the needs of the present generation, without compromising the ability of future generations to meet their own needs. And while definitions have changed throughout history, the core has remained the same. The difference is that sometimes the focus was more on the environment or social rights.

Today, sustainable development is based on understanding the interconnectedness of its three fundamental components: society, the environment, and the economy. The balance between all three components and their operationalization in practice ensures the long-term development of human society in a preserved environment.

The United Nations is the main organization that provides guidelines for sustainable development.

HOW TO ACHIEVE SUSTAINABLE DEVELOPMENT?

Many of the challenges facing humankind, such as climate change, water scarcity, inequality and hunger, can only be resolved at a global level and by promoting sustainable development: a commitment to social progress, environmental balance and economic growth.

As a part of a new sustainable development roadmap, the United Nations approved the 2030 Agenda, which contains the Sustainable Development Goals, a call to action to protect the planet and guarantee the global well-being of people. These common goals require the active involvement of individuals, businesses, administrations and countries around the world.

WHAT ARE THE SUSTAINABLE DEVELOPMENT GOALS?

The Seventeen Sustainable Development Goals are new universal and global goals that United Nations members are expected to use in shaping their programs and policies over the next fifteen years. In August 2015, 193 countries agreed on the next seventeen targets and their 169 associated targets, which will run until 2030. The goals are aimed at creating a better future for people and the planet. The goals are to further build partnerships between countries. All goals are complete and indivisible and, in addition to partnership and peace, are based on three basic dimensions of sustainable development: society, environment and economy.

Project activities:

The project is aiming to design and develop learning materials that will be used in an online platform (also to be designed and used), that helps pupils develop the key competences for the 21st century of critical thinking, creativity and problem solving while teaching them about the United Nation's Sustainable Development Goals.

This results in three intellectual outputs:

(Output 1) Design and development of learning materials.

There will be materials for each of the SDGs (there are 17 goals) taking different shapes such as questions, quizzes, challenges and interactive presentations.

Overall there will be more than 17 different gamified elements, to enable a diversified and exten-



sive offer that will keep the pupils interested.

(Output 2) Design and development of an online platform.

The platform will host the aforementioned learning materials that will support gamification elements to go along with the interactive nature of the learning materials.

(Output 3) Development of digital skills course.

The project is aiming to develop a teacher training course on digital skills related to distance learning that will be delivered to teachers within the scope of the project and be made available online.

Included organizations:

Malina Popivanova Primary School (as a coordinator) is a primary school from Kočani, The Republic of North Macedonia. The school was founded on August 26, 1985, and from June 11, 2021, it has been re-registered as a Center for the support of students with special educational needs. At the end of 2019, a sensory room for students with disabilities was put into use in the school. The room is used as a therapy for children with limited communication skills.

Kiril Hristov Primary School (as a partner) is a primary school from Stara Zagora, Bulgaria. The school was founded in 1896. Kiril Hristov is one of the innovative schools in Bulgaria, which is a model of the modern school. In it, students improve their results and their critical thinking through innovative educational processes and teaching methods. Teachers and students work on various national and international programs and projects.

Dubovac Primary School (as a partner) is a primary school from Karlovac, Croatia. The school was founded in 1979. Within the school, students can attend several extracurricular activities such as choir, drumming which is the most popular activity, GLOBE program, drama group, media group, art group, robotics, universal sports school, young technicians, Red Cross. For 15 years, the school has been involved in the GLOBE program (sponsored by NASA, USA), in which students measure atmospheric, hydrological, pedological and biological factors in the environment and then submit it to a common database in the USA.

Eco Logic, Macedonia (as a partner) is a Non-Governmental Organisation Located in Skopje, The Republic of North Macedonia. The organisation was founded in 2011. ECO-LOGIC is a non-profit organization that is dedicated to protection and conservation of the environment, promotion of modern ecological practices, as well as monitoring and promoting the principle of sustainable development, emphasizing primary education settings (formal and non-formal), kindergartens, elementary and secondary schools, as well as universities.

References:

https://www.acciona.com/sustainable-development/?_adin=02021864894

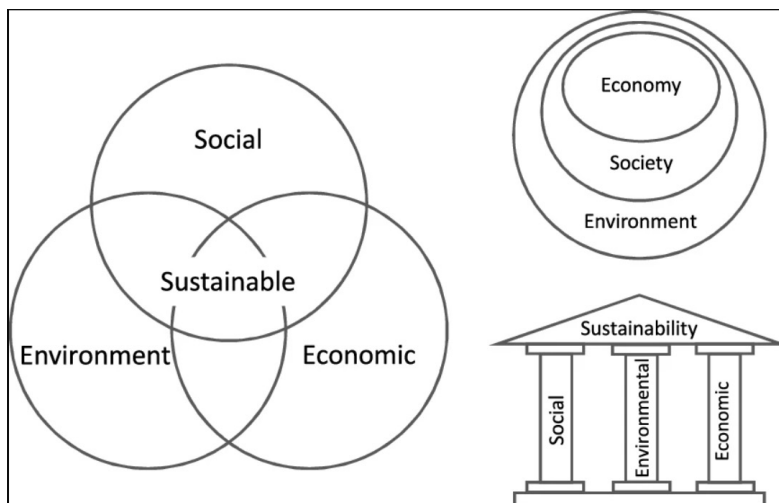
<https://sdgs.un.org/2030agenda>



Introduction to the curriculum

The need of the curriculum:

Sustainable development (Picture 1) is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services on which the economy and society depend.(1)

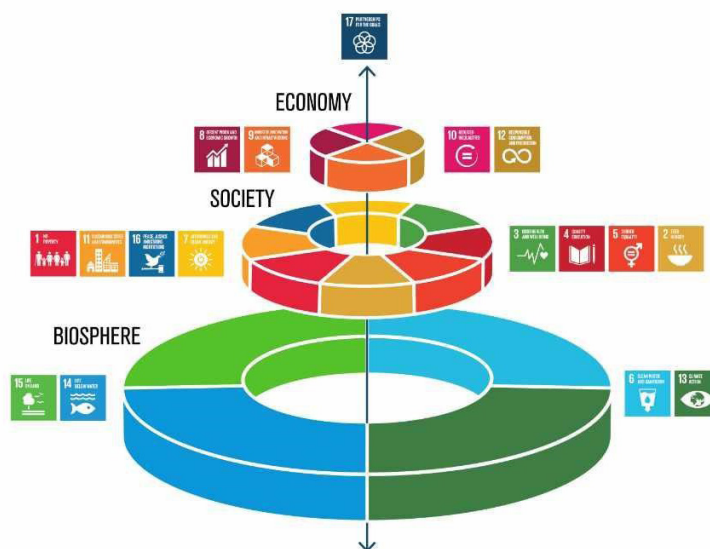


Picture 1. Description of sustainability

https://upload.wikimedia.org/wikipedia/commons/1/1d/11625_2018_627_Fig1_HTML.webp

Teaching the SDG (Sustainable development goals) is extremely important because the young generation should understand what the development of the current generation should be. It must be such that the development of the upcoming generations is not jeopardized in the future.(2, 3, 4)

The development of society and the economy must take place in such a way as not to endanger the environment in which future generations will live (Picture 2). The idea of the curriculum is to provide the provision of quality learning, PBL (project-based learning) develop the 21st-century skills (4C) and understanding the need to apply lifelong learning in order to achieve the SDG goals.



Picture 2. Economies and societies should be seen as embedded parts of the biosphere.

<https://www.stockholmresilience.org/research/research-news/2016-06-14-how-food-connects-all-the-sdgs.html>

Objectives of the curriculum:

The present volume addresses Education for Sustainable Development (ESD), which empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. ESD promotes holistic and transformational education. This type of education addresses learning content and outcomes, innovative pedagogy and 'learning by doing', and uses a whole-school approach to engage communities in achieving sustainable change.

The Target 4.7 of Sustainable Development Goal 4, which by 2030, seeks to 'ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles...' as well as cutting across all the other Sustainable Development Goals (SDGs). (5)

The concept of ESD must provide the knowledge skills, values and attitudes that empower learners to contribute to sustainable development. The programs and activities which promote sustainable development must be integrated into the curriculum. The educator should prepare learners to understand and respond to the changing world and the learners must become „sustainability citizens“.

The suggested activities and exercises in the frame of the curriculum, will lead young people to actively participate in society, actively participate in discussion with their idea, thinking and making new solutions for problems. The young people will also understand the importance of inclusion in everyday life and develop social skills.

Intended users of the curriculum:

The intended users of the curriculum are students between the ages of 11 to 15 years old. The curriculum has wide applicability, can be adapted, and applied to different educational contexts, age groups, topics, and goals.

Methodology:

The educational approach will lead to increased awareness on environmental and climate-change-related challenges. The materials promote lifestyle practices that are environmentally friendly and sustainable and increase the users' awareness and embolden them to become more active in environmental causes, taking action and being entrepreneurial towards the challenges. The materials are promoting critical thinking and inventive solutions towards problem-solving, just as they will need to in order to tackle the challenges in the real world.

Skills addressed:

- **Learning Skills:** critical thinking, communication, collaboration, and creativity.
- **Life Skills:** Flexibility, initiative, social skills, productivity, leadership
- **Literacy Skills:** Information literacy, media literacy, technology literacy

Sources:

1. <https://www.ohchr.org/en/taxonomy/term/792?page=8>

2. "THE 17 GOALS | Sustainable Development". sdgs.un.org. Retrieved 10 August 2022.

3. United Nations (2017) Resolution adopted by the General Assembly on 6 July 2017, Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313 Archived 28 November 2020 at the Wayback Machine)

4. United Nations General Assembly (1987) Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427 – Development and International Co-operation: Environment.

5. <https://unesdoc.unesco.org/ark:/48223/pf0000261445>



Structure of the curriculum

The curriculum is organised in 17 modules:

- Goal 1: No poverty
- Goal 2: Zero hunger
- Goal 3: Good health and well-being
- Goal 4: Quality education
- Goal 5: Gender equality
- Goal 6: Clean water and sanitation
- Goal 7: Affordable and clean energy
- Goal 8: Decent work and economic growth
- Goal 9: Industry, innovation and infrastructure
- Goal 10: Reduced inequalities
- Goal 11: Sustainable cities and communities
- Goal 12: Responsible consumption and production
- Goal 13: Climate action
- Goal 14: Life below water
- Goal 15: Life on land
- Goal 16: Peace, justice and strong institutions
- Goal 17: Partnerships for the goals

Each module contains:

- an Introduction
- Power-point Presentation
- Activities and Worksheets

Introduction – gives a brief explanation of the Sustainable Development Goal. It provides enough information about it in order to enable the reader to comprehend its significance. The introduction contains: brief explanation; overall aim; why is important for a community; key dimensions/ key words.

Power-point Presentation – contains informations of the Sustainable Development Goal.

The lessons in the frame of the module contain:

- Objectives
- Activity details
- Instructions
- Tips for the facilitator
- Debriefing
- Follow-up/Inspiration for the future
- References/Further reading
- Annex



Objectives – give outcomes of the module.

Activity details – information about duration and target groups.

Instructions - directions and information to help with the realization of the module, details of the module; learning and teaching activities; exercises connected to the module.

Tips for the facilitator – the role of the leader of the module.

Follow-up/Inspiration for the future – activities that could be carried out in the future related to the Sustainable Development Goal.

References/Further reading - references with videos and other useful literature connected to the module.

Annex – learning material and tools.



Structure of activities

- **Name of activity - title**

- **Objectives** - they explain what knowledge the student will get by learning about a certain goal of sustainable development, and what 21st century skills will have acquired during work.

- **Activity details** - states where the materials needed to work on a specific curriculum are located (in the Annex), the duration of the activity and the number of students expected to work on a specific curriculum.

- **Instructions** - It provides instructions for carrying out activities in a specific curriculum and the expected duration of the activity.

- **Tips for the facilitator** - gives instructions to the activity implementer on how to motivate the students and how to implement the activities as best as possible.

- **Debriefing** - explains the ways in which students will present the results of their activities to the rest of the class.

- **Follow-up/Inspiration for the future** - explains where information about lessons and activities can be found.

- **References/ further reading** - they contain information about the sources used to work on the teaching materials, the Internet pages that were used when preparing the materials.

- **Annex** - contains materials that the teacher needs to implement for certain teaching unit, such as questionnaires, quizzes, worksheets for group or individual work, summaries of the taught unit, etc.



Quantity of the learning materials:

Name of the module	Quantity of the lesson plans	Quantity of lessons	Quantity of presentations	Quantity of activities
GOAL 1: NO POVERTY Economic growth must be inclusive to provide sustainable jobs and promote equality.	2	2	1	5
GOAL 2: ZERO HUNGER The food and agriculture sector offers key solutions for development, and is central for hunger and poverty eradication.	2	2	1	4
GOAL 3: GOOD HEALTH AND WELL-BEING Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development.	2	2	1	2
GOAL 4: QUALITY EDUCATION Obtaining a quality education is the foundation to improving people's lives and sustainable development.	2	2	1	3
GOAL 5: GENDER EQUALITY Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.	2	2	1	4
GOAL 6: CLEAN WATER AND SANITATION Clean, accessible water for all is an essential part of the world we want to live in.	2	2	1	2

<p>GOAL 7: AFFORDABLE AND CLEAN ENERGY Energy is central to nearly every major challenge and opportunity.</p>	2	2	1	5
<p>GOAL 8: DECENT WORK AND ECONOMIC GROWTH Sustainable economic growth will require societies to create the conditions that allow people to have quality jobs.</p>	2	2	1	3
<p>GOAL 9: INDUSTRY, INNOVATION, AND INFRASTRUCTURE Investments in infrastructure are crucial to achieving sustainable development.</p>	2	2	1	5
<p>GOAL 10: REDUCED INEQUALITIES To reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations.</p>	2	2	1	4
<p>GOAL 11: SUSTAINABLE CITIES AND COMMUNITIES There needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing, transportation and more.</p>	2	2	1	2
<p>GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION Responsible Production and Consumption</p>	2	2	1	5

<p>GOAL 13: CLIMATE ACTION Climate change is a global challenge that affects everyone, everywhere.</p>	2	2	1	2
<p>GOAL 14: LIFE BELOW WATER Careful management of this essential global resource is a key feature of a sustainable future.</p>	2	2	1	2
<p>GOAL 15: LIFE ON LAND Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss</p>	2	2	1	2
<p>GOAL 16: PEACE, JUSTICE AND STRONG INSTITUTIONS Access to justice for all, and building effective, accountable institutions at all levels</p>	2	2	1	6
<p>GOAL 17: PARTNERSHIPS Revitalize the global partnership for sustainable development.</p>	4	4	1	5
Total	36	36	17	61

Types of materials provided:

<ul style="list-style-type: none">• boards• bowls• boxes• cards• charter flowers• chemical bulletins• chemicals• collections of marine life• color pencils• electronic materials• felt-tip pens• games• globes	<ul style="list-style-type: none">• guides• hats with inscriptions• interactive boards• knives• maps• markers• media projectors• mobile phones• personal computers / laptops• pictures• posters• powerpoint presentations• printed fairy tales	<ul style="list-style-type: none">• question cards• questionnaire forms• quizzes• sculpted materials• selections of literature• signs• stickers• surveys• tables• tests• video clips• white and colored paper• worksheets
--	--	---

How to use the curriculum?

The curriculum contains introductions for each sustainable development goal, presentations and lesson plans. Lessons are written with detailed instructions in English, Bulgarian, Croatian and Macedonian. Each sustainable development goal has one or more lessons. The educator/teacher can make a choice of lesson that suits the working conditions, the number and age of students, the time required or the material.

At the beginning of each lesson plan there are outcomes that can be achieved in working with the students and the skills that the student can develop, the necessary material for the work and the time needed to hold the workshop. It is done independently, in pairs or in groups, and digital tools and platforms can be used: PowerPoint, Canva, Sway, Learningapps, StoryJumper, Wordwall, Powtoon, Stop Animation.

The lessons are divided into several activities, for each activity work methods, questions, possible answers, worksheets and possible solutions are written. At the end of each lesson, there are additional activities that can be done after the workshop, as a result of work or a report, sources for additional research. Some lessons in the annex also have worksheets.

All the activities in the lesson are connected, but the teacher can choose the activities according to the students' interest, their ideas and creativity.

The creativity of the educator/teacher is also welcome, the lessons can be adapted. If you only want to get acquainted with the topic, but not realize an activity or exercises, you can follow the presentations that are made for each goal. Examples of student activities: answering questions, discussing a problem, writing essays, problem articles, solving questionnaires, quizzes, watching videos, playing games, making presentations, brochures, quizzes, practical works, posters, drawings, games, researching with the help of links, databases, tables and infographics, setting up an exhibition, presenting research results, publishing on social networks or school websites. The curriculum is built to be flexible enough for the educator/teacher to adapt to needs and circumstances and ready to use, in order to facilitate the teacher's task, such as preparatory work and class implementation.

Final remarks:

We hope you will use the curriculum in your school or after-school activities.

A lot of effort has been invested in it, to encourage work with children and young people, to motivate them to think critically about sustainable development and what the current generation's development should be for future generations.

It is necessary for each of us to be a part of the change in the world and contribute to a better life for all people, equal rights and opportunities, and the preservation of the environment.

"One child, one teacher, one pen and one book can change the world."

Malala Yousafzai

Sustainable Development Goal 1.

No poverty

SDG 1.

The goal:

To end poverty in all its forms everywhere by 2030.

One of the 17 Sustainable Development Goals established by the United Nations in 2015,



<https://unric.org/en/sdg-1/#top>

May, 23th, 2022.

The targets

- 1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day
- 1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
- 1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable
- 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
- 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
- 1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions
- 1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

Why is it important?

- More than 10% of the world's population lives in extreme poverty
- Extreme poverty means you can't afford drinking water, at least one meal a day, clothes, shoes, and a very likely place to live
- The extreme poverty line is determined by the amount set by the World Bank in 2018 and amounts to 1.90 US dollars per person per day (majority of them live in sub-Saharan Africa)
- The COVID-19 pandemic put tens of millions of people at risk of extreme poverty (8 % of global human population) causing the first increase in global poverty in more than 20 years
- Even before COVID-19, baseline projections suggested that 6 per cent of the global population would still be living in extreme poverty in 2030, missing the target of ending poverty
- Having a job does not guarantee a decent living
- 8 % of employed workers and their families worldwide lived in extreme poverty in 2018.
- One of five children live in extreme poverty

Why should I care?

- There are many reasons, but in short, because as human beings, our wellbeing is linked to each other



https://www.un.org/sustainabledevelopment/wp-content/uploads/2016/08/1_Why-It-Matters-2020.pdf

May, 23th, 2022.

What can I do about it?

What can governments do about it?

What can private sector do about it?

- Your active engagement in policymaking can make a difference in addressing poverty
- It ensures that your rights are promoted and that your voice is heard
- Governments can help create an enabling environment to generate productive employment and job opportunities for the poor and the marginalized
- Private sector can promote economic opportunities for the poor



SUSTAINABLE DEVELOPMENT GOALS

ACCESS MORE DATA AND INFORMATION ON THE INDICATORS AT [HTTPS://UNSTATS.UN.ORG/SDGS/REPORT/2020/](https://unstats.un.org/sdgs/report/2020/)

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infograph-ic_01.pdf

May, 23th, 2022.



Developing the introduction

Overall Aim of Sustainable Development Goal 1 - No poverty

Sustainable Development Goal 1 No poverty, is one of the 17 Sustainable Development Goals established by the United Nations in 2015.

The first Sustainable Development Goal aims to “End poverty in all its forms everywhere”. Its seven associated targets aims, among others, to eradicate extreme poverty for all people everywhere, reduce at least by half the proportion of men, women and children of all ages living in poverty, and implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

Goal 1 has following targets:

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

1.A Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions

Developing the introduction

1.B Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.

Why is it important for educational community?

The academic and education community have a major role in increasing the awareness about the impact of poverty. Science provides the foundation for new and sustainable approaches, solutions and technologies to tackle the challenges of reducing poverty and achieving sustainable development. The contribution of science to end poverty has been significant. For example, it has enabled access to safe drinking water, reduced deaths caused by water-borne diseases, and improved hygiene to reduce health risks related to unsafe drinking water and lack of sanitation. As human beings, our wellbeing is linked to each other. Growing inequality is detrimental to economic growth and undermines social cohesion, increasing political and social tensions and, in some circumstances, driving instability and conflicts.

Key dimensions of Sustainable Development 1 No Poverty

Poverty is not just not having an income that will provide us with a secure daily life. Poverty includes hunger and malnutrition, inaccessibility or limited access to education, homelessness, poor and inadequate housing conditions, poor health, increased mortality, social discrimination and isolation, and reduced participation in decision-making.

Although poverty is as old as humanity, its image and boundaries are constantly changing. It is present in all societies, although in more developed societies the number of poor citizens is smaller than in underdeveloped parts of the world, where citizens face it even in its extreme forms.

More than 10% of the world's population lives in extreme poverty. Extreme poverty means you can't afford drinking water, at least one meal a day, clothes, shoes and a very likely place to live. The extreme poverty line is determined by the amount set by the World Bank in 2018 and amounts to 1.90 US dollars per person per day (less than 13 kn).

At that time, 8% of employees in the world lived in extreme poverty.

Poverty eradication is the first goal of sustainable development, one of the most challenging goals of sustainable development. United Nations member states are

Developing the introduction

committed to ending all forms and dimensions of poverty, including extreme poverty, by the end of 2030. This challenging goal was further burdened by the global crisis of the Covid-19 pandemic and the economic downturn caused by the pandemic. The Covid-19 pandemic has pushed millions of employed people into unemployment and poverty. Even before the start of the global Covid-19 pandemic, assumptions were made that despite efforts to achieve the first goal of sustainable development, 6% of the world's population in 2030. continue to live in extreme poverty, which means that the goal will not be achieved.

The interplay between Sustainable Development Goal 1 No Poverty and the acquisition of 21st century skills

21st Century skills are 12 abilities that today's students need to succeed in their careers during the Information Age.

The twelve 21st Century skills are:

1. Critical thinking
2. Creativity
3. Collaboration
4. Communication
5. Information literacy
6. Media literacy
7. Technology literacy
8. Flexibility
9. Leadership
10. Initiative
11. Productivity
12. Social skills

These skills are intended to help students keep up with the lightning-pace of today's modern markets. Each skill is unique in how it helps students, but they all have one quality in common. They're essential in the age of the Internet.

Each 21st Century skill is broken into one of three categories:

Developing the introduction

1. Learning skills
2. Literacy skills
3. Life skills

Learning skills (the four C's) teaches students about the mental processes required to adapt and improve upon a modern work environment.

Literacy skills (IMT) focuses on how students can discern facts, publishing outlets, and the technology behind them. There's a strong focus on determining trustworthy sources and factual information to separate it from the misinformation that floods the Internet.

Life skills (FLIPS) take a look at intangible elements of a student's everyday life. These intangibles focus on both personal and professional qualities.

Activity 1

Learning Tool Code	Title
SDG1-SDGfP	No poverty
Objectives	
<ol style="list-style-type: none"> 1. The student explains the concept of poverty 2. The student explains the term extreme poverty 3. The student explains what the first goal of sustainable development should be achieved 4. The student explains the possible reasons for not achieving the goal by 2030. 5. The student explains the connection between poverty and the outbreak of the Covid-19 pandemic 6. The student learns the causes that can lead to poverty 7. The student connects the concept of poverty with the situation in Croatia 8. The student cooperates in a team 9. The student applies critical thinking to problem solving 10. The student develops a positive attitude towards learning new content (SDGfP goal 1) 	
Activity details	
<ul style="list-style-type: none"> - materials - in the attachment - duration of the activity - 120 min - a group of 15-20 students 	
Instructions	
<p>Activity 1:</p> <p>introduction to the topic - asking questions (10 min)</p> <ul style="list-style-type: none"> - What is poverty for you? - Is a person poor if he can't afford the latest cell phone model? - What causes an individual's poverty? - Do you know people you would say are poor? - Can you, as an individual, help prevent poverty and how? <p>After the students have given answers to the questions asked and discussed the answers given, they are shown a short video.</p> <p>https://youtu.be/TfOJ7HNo-qE</p>	

After watching the video, students talk about what they saw in the video. They comment and exchange opinions on whether in the introductory part of the lesson they gave similar answers to the questions asked at the beginning of the lesson with the answers mentioned in the video.

Activity 2: (30 min)

Students are given material from the Annex, which explains in more detail what poverty is. Also, the term extreme poverty is explained. Students are introduced to the goal 1 of sustainable development: the eradication of poverty in all its forms and everywhere in the world by 2030. and with predictions that the goal will not be achieved. They link the outbreak of the Covid-19 pandemic with the deepening of poverty and the prolongation of the goal. Students get to know the situation in Croatia and learn whether there is extreme poverty in Croatia.

After reading the material, students will watch a video in which true stories about poverty are presented.

https://youtu.be/oRO67LjN_ks

Students talk about what they heard in the video. Based on what they saw in the video and the material they read from the Annex, students answer the questions:

- What is extreme poverty?
- Is there extreme poverty in Croatia?
- Does children's poverty affect their school success And if so, how?
- Does the lack of education affect poverty, or can education help a person get rid of poverty?
- Can natural disasters lead to poverty?
- How can you as an individual help prevent poverty
- Can you help everyone? So the answer is not that you should give up trying to help just one person, explain?
- Have you ever thought about how to help someone who has no money and what way did you intend to help?

remark: Questions can be changed to fit other countries. If there aren't any cases of poverty, the teachers can translate the materials from Croatian to other languages for the students.

Activity 3: (50 min)

Students were given the task to explore one of the current problems related to poverty in Croatia; menstrual poverty. The Association for Human Rights and Civic Participation PaRiter deals with this problem. At the end of 2020, the association spoke about this issue through an online questionnaire.

The task is to use links to explore:

1. What does the term menstrual poverty mean?
2. Is it trying to solve this problem and in what way?
3. Have you ever encountered in a real environment the problem discussed in the links?
4. What do the research results say?
5. What issues were covered by the research?

<https://pariter.hr/objavljeno-je-prvo-istrazivanje-o-menstrualnom-siromastvu-u-hrvatskoj/>

∟

<https://www.ziher.hr/komentar-menstrualno-siromastvo/>

<https://pariter.hr/wp-content/uploads/2021/02/Menstrualno-siromastvo-izvjestaj-1-1-1.pdf>

<https://pariter.hr/apel-zastupnicima-cama-smanjite-porez-na-menstrualne-potrepstine-5-posto/>

<https://pariter.hr/vlada-rh-je-jos-jednom-odbila-prijedlog-o-smanjenju-poreza-na-menstrualne-potrepstine/>

remark: Questions can be changed to fit other countries. If there aren't any cases of poverty, the teachers can translate the materials from Croatian to other languages for the students.

Tips for the facilitator

- the teacher asks questions and tries to involve as many students as possible in the answer
- after the students independently study the working material from the attachment, they try to play a game, which asks them for the answers that were in the working materials
- the teacher has the role of helper, leader, and guides students when they need help

Debriefing

Students present the results of their research to the whole class, read the answers from their questionnaires and further explain them.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://youtu.be/TfOJ7HNo-qE>

https://youtu.be/oRO67LjN_ks

<https://pariter.hr/objavljeno-je-prvo-istrazivanje-o-menstrualnom-siromastvu-u-hrvatskoj/>

<https://www.ziher.hr/komentar-menstrualno-siromastvo/>

<https://pariter.hr/wp-content/uploads/2021/02/Menstrualno-siromastvo-izvjestaj-1-1-1.pdf>

<https://pariter.hr/apel-zastupnicima-cama-smanjite-porez-na-menstrualne-potrepstine-5-posto/>

<https://pariter.hr/vlada-rh-je-jos-jednom-odbila-prijedlog-o-smanjenju-poreza-na-menstrualne-potrepstine/>

Annex

Questionnaire 1.

1. What is extreme poverty?

2. Is there extreme poverty in Croatia?

3. Does children's poverty affect their school success and if so, how?

4. Whether the lack of education affects poverty, or whether education can help a person get rid of poverty.

5. Can natural disasters lead to poverty?

6. How can you as an individual help prevent poverty?

7. Can you help everyone? So the answer is no that you need to give up trying to you only help one person, explain?



8. Have you ever thought about helping someone who has no money and how did you intend to help?

Questionnaire 2.

1. What does the term menstrual poverty mean?

2. Is it trying to solve this problem and in what way?

3. Have you ever encountered in a real environment the problem discussed in the links?

4. What do the research results say?

5. What issues were covered by the research?



NO POVERTY, GOAL 1.

The goal: to eradicate poverty everywhere and in all its forms by 2030.

What is poverty?

Poverty isn't not having an income that will provide us with a secure daily life. Poverty includes hunger and malnutrition, inaccessibility or limited access to education, homelessness, poor and inadequate housing conditions, poor health, increased mortality, social discrimination and isolation, and reduced participation in decision-making.

Although poverty is as old as humanity, its image and boundaries are constantly changing. It is present in all societies, although in more developed societies the number of poor citizens is in a smaller percentage than in underdeveloped parts of the world, where citizens face it even in its extreme forms.

More than 10% of the world's population lives in extreme poverty. Extreme poverty means you can't afford drinking water, at least one meal a day, clothes, shoes, and a very likely place to live. The extreme poverty line is determined by the amount set by the World Bank in 2018 and amounts to 1.90 US dollars per person per day (less than 13 kn). At that time, 8% of employees in the world lived in extreme poverty.

Poverty eradication is the first goal of sustainable development, one of the most challenging goals of sustainable development. United Nations member states are committed to ending all forms and dimensions of poverty, including extreme poverty, by the end of 2030. This challenging goal was further burdened by the global crisis of the Covid-19 pandemic and the economic downturn caused by the pandemic. The Covid-19 pandemic has pushed millions of employed people into unemployment and poverty. Even before the start of the global Covid-19 pandemic, assumptions were made that despite efforts to achieve the first goal of sustainable development, 6% of the world's population in 2030. continue to live in extreme poverty, which means that the goal will not be achieved.

The situation in the world

Although the number of people living in poverty is declining (in South Asia: it was 36% in the 1990s and 10% in 2015), poverty is still present, especially in developing countries. Almost every tenth person lives on less than \$ 1.90 a day, or less than \$ 13 a day. The largest number of the poorest citizens live in South Asia and sub-Saharan Africa.

Covid-19 crisis has slowed the world's fight against poverty. The economic downturn caused by the Covid-19 crisis could increase global world poverty to 8% of the world's total population. This could be the first global increase in poverty since 1990. The World Bank stated that in 2020, 71 million people have been pushed into poverty, while the International Organization for Human Rights estimates that in 2022, more than 205,000 people will be unemployed (in 2019 the number of unemployed was 187,000 people), so the number of unemployed will continue to grow.

The situation in Croatia

In Croatia, the problem of extreme poverty is almost insignificant and amounts to 0.6%. This does not mean that the problem should be ignored. A big problem is the fact that 19.3% of people live on the poverty line. The most vulnerable people are senior citizens and retirees. Through the various programs in which they are included, they are provided with help at home and through the living rooms a place to socialize. Many associations operating in Croatia make citizens aware of the problem of poverty. Many "shops" in Croatia have been opened that collect supplies and food and give them to the needy.

Activity 2

Learning Tool Code	Title
SDG1-SDGfP	Poverty reduction must start with children
Objectives	
<ul style="list-style-type: none"> - To present a concise but persuasive argument based on research; - To understand the concept of poverty; - To think critically; - To work goal oriented; - Students are able to make smart and informed decisions; - Strive to achieve SDG1; 	
Activity details	
<p>Materials - see annex</p> <p>Duration – 4 hours</p> <p>Number of groups - several groups of 4-5 students (8th grade, age 13-14)</p>	
Instructions	
<p>Lesson one (2 hours)</p> <p>Activity one (1 hour)</p> <p>To have students begin to understand the concepts of needs and wants have each student write a list of ten things they would take if they had to live on an island. Students then form groups of four and answer the question</p> <p><i>From all of their lists if they could only bring four things what they would be?</i></p> <p>Students than discuss the difference between needs and wants.</p> <p>Students take some time and think about how they fill some of these needs in their life. The teacher can ask gives few questions and the students discuss the questions with a partner:</p> <ol style="list-style-type: none"> 1. <i>Do you and/or your parents meet these needs?</i> 2. <i>Does the school meet these needs?</i> 3. <i>How do you determine if a specific thing was a need or want?</i> 4. <i>What things are not on your partner's list and why didn't they include them?</i> <p>Then students should determine if things they are discussing are really wants, and not needs. While discussing student examples, reinforce the definition of needs and wants.</p> <p>Activity two (1 hour)</p>	

Before watching the video, the teacher gives the students a questionnaire to find out what poverty means to the students. (see annex)

After the students answer the questionnaire, we watch the video and analyze it and after that follows a discussion and comparison of different opinions, the answers of the students from the questionnaire, and their opinions after watching the video and the discussion about the wants and needs.

https://www.youtube.com/watch?v=tXpm7xDRWk4&ab_channel=WorldVisionAus

(video link)

Lesson two (2 hour)

Students watch a video on the causes of poverty

https://www.youtube.com/watch?v=SCUhFFQ_ZRA&t=217s&ab_channel=EconplusDal

After watching the video, the teacher asks the students

1. Considering the living conditions of the two characters in the video and your living conditions, which character would you say you are equal or similar to?

Discussion and comparison of opinions follows.

Then the teacher divides the students into groups of 4-5 students. Each group gets a task to do research, think and make posters with ideas on how to reduce inequality between rich and poor countries?

Tips for the facilitator

- 1) The teacher distributes the questionnaires to the students to see what their thoughts are before watching the video
- 2) After watching the video, the teacher starts a discussion to compare the initial opinions and the opinions after watching the video.
- 3) The teacher reads the story and starts a discussion to compare opinions.
- 4) The teacher encourages a discussion after watching the video on "Causes of Poverty"

Debriefing

Presentation of students' findings from the research and group work through posters. The findings can also be presented through storyjumper by showing all the steps to the final results and conclusions.

Follow-up/Inspiration for the future

Students present their posters to the rest of the group or can digitalize the posters and spread them around the school.

References/Further reading

https://www.e-ucebnici.mon.gov.mk/pdf/002%20Makedonski%206%20-%20Finalna%20Print%20Verzija_compressed.pdf

https://www.youtube.com/watch?v=tXpm7xDRWk4&ab_channel=WorldVisionAus

https://www.youtube.com/watch?v=SCUhFFQ_ZRA&t=217s&ab_channel=EconplusDal

Annex

Lesson one -Activity two

Questionnaire

What is poverty?

1. How can we define poverty?

2. Is it just the opposite of wealth?

3. Is it just a lack of money?

4. How is poverty related to human well-being?

Sustainable Development Goal 2

Zero Hunger

Sustainable Development Goal 2 (SDG 2) is about „ Zero hunger“

After decades of steady decline, the number of people who suffer from hunger – as measured by the prevalence of undernourishment – began to slowly increase again in 2015.

The world is not on track to achieve Zero Hunger by 2030.

If recent trends continue, the number of people affected by hunger would surpass 840 million by 2030.

The Targets

Target 2.1: Universal access to safe and nutritious food

Target 2.2: End all forms of malnutrition

Target 2.3: Double the productivity and incomes of small-scale food producers

Target 2.4: Sustainable food production and resilient agricultural practices

Target 2.5: Maintain the genetic diversity in food production

Target 2.A: Invest in rural infrastructure, agricultural research, technology and gene banks

Target 2.B: Prevent agricultural trade restrictions, market distortions and export subsidies

Target 2.C: Ensure stable food commodity markets and timely access to information

Why is it important?

- Current estimates are that nearly 690 million people are hungry, or 8.9 percent of the world population – up by 10 million people in one year and by nearly 60 million in five years.
- The majority of the world's undernourished – 381 million – are still found in Asia. More than 250 million live in Africa, where the number of undernourished is growing faster than anywhere in the world.
- In 2019, close to 750 million – or nearly one in ten people in the world were exposed to severe levels of food insecurity.
- An estimated 2 billion people in the world did not have regular access to safe, nutritious and sufficient food in 2019.
- 114 million people under age 5 were affected by stunting in 2019, with three quarters living in Southern Asia and sub-Saharan Africa.
- In 2019, 6.9 per cent (or 47 million) children under 5 were affected by wasting, or acute under-nutrition, a condition caused by limited nutrient intake and infection.

The Challenge

- sustainable solutions to end hunger in all its forms by 2030 and to achieve food security
- everyone everywhere has enough good-quality food to lead a healthy life.
- better access to food and the widespread promotion of sustainable agriculture
- improving the productivity and incomes of small-scale farmers by promoting equal access to land, technology and markets
- sustainable food production systems and implement agricultural practices that increase productivity and production
- help maintain ecosystems that can help adaptation to climate changes.
- maintain the genetic diversity of seeds, cultivated plant and domesticated animals and their related wild species all that managed at the national, regional and international levels

How can we address this?

- increase the investment through international cooperation to bolster the productive capacity of agriculture in developing countries
- correct and prevent trade restrictions and distortions in world agricultural markets
- adopt measures to ensure proper functioning of food commodity markets and their derivatives
- investments in rural and urban areas and in social protection so poor people have access to food and can improve their livelihoods.

Links to other SDGs

SDG 2 is linked to many of the other SDGs:

- peaceful and inclusive societies (SDG 16)
- good health and well being (SDG 3)
- quality education (SDG 4)
- affordable and clean energy (SDG 7)
- climate action (SDG 13)
- clean water and sanitation (SDG 6)
- life on land (SDG 15)





2 ZERO HUNGER



About
2 billion
people did
not have
regular access
to safe,
**nutritious and
sufficient food**
in 2019

ZERO HUNGER: WHY IT MATTERS

What's the goal here?

To end hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Why?

Extreme hunger and malnutrition remains a barrier to sustainable development and creates a trap from which people cannot easily

escape. Hunger and malnutrition mean less productive individuals, who are more prone to disease and thus often unable to earn more and improve their livelihoods. 2 billion people in the world do not have regular access to safe, nutritious and sufficient food. In 2019, 144 million children under the age of 5 were



stunted, and 47 million were affected by wasting.

How many people go hungry?

More than 690 million people were undernourished in 2019, mainly in Asia and Africa. People experiencing moderate food insecurity are typically unable to eat a healthy, balanced diet on a regular basis because of income or other resource constraints. If these trends continue, an estimated 840 million people will go hungry by 2030.

The situation is likely to deteriorate even further owing to COVID-19.

Why are there so many hungry people?

Along with conflict, climate shocks and the locust crisis, the pandemic poses an additional threat to food systems. Civil insecurity and declining food production have all contributed to food scarcity and high food prices.

Investment in the agriculture sector is critical for reducing hunger and poverty, improving food security, creating employment

and building resilience to disasters and shocks.

Why should I care?

We all want our families to have enough food to eat what is safe and nutritious. A world with zero hunger can positively impact our economies, health, education, equality and social development.

It's a key piece of building a better future for everyone. Additionally, with hunger limiting human development, we will not be able to achieve the other sustainable development goals such as education, health and gender equality.

How can we achieve zero hunger?

Food security requires a multi-dimensional approach - from social protection to safeguard safe and nutritious food especially for children - to transforming food systems to achieve a more inclusive and sustainable world. There will

need to be investments in rural and urban areas and in social protection so poor people have access to food and can improve their livelihoods.

What can we do to help?

You can make changes in your own life—at home, at work and in the community—by supporting local farmers or markets and making sustainable food choices, supporting good nutrition for all, and fighting food waste.

You can also use your power as a consumer and voter, demanding businesses and governments make the choices and changes that will make Zero Hunger a reality. Join the conversation, whether on social media platforms or in your local communities.

To find out more about Goal #2 and other Sustainable Development Goals, visit:

<http://www.un.org/sustainabledevelopment>



2 ZERO HUNGER
END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

BEFORE COVID-19

FOOD INSECURITY WAS ALREADY ON THE RISE

POPULATION AFFECTED BY MODERATE OR SEVERE FOOD INSECURITY

22.4%

2014

25.9%

2018

STUNTING AND WASTING AMONG CHILDREN ARE LIKELY TO WORSEN

21.3%

(144 MILLION)

OF CHILDREN UNDER 5 ARE STUNTED

6.9%

(47 MILLION)

OF CHILDREN UNDER 5 ARE AFFECTED BY WASTING (2019)

COVID-19 IMPLICATIONS

THE PANDEMIC IS AN ADDITIONAL THREAT TO FOOD SYSTEMS

SMALL-SCALE FOOD PRODUCERS ARE HIT HARD BY THE CRISIS

COMPRISING 40%-85% OF ALL FOOD PRODUCERS IN DEVELOPING REGIONS



ACCESS MORE DATA AND INFORMATION ON THE INDICATORS AT [HTTPS://UNSTATS.UN.ORG/SDGS/REPORT/2020/](https://unstats.un.org/sdgs/report/2020/)





Developing the introduction

Overall Aim of Sustainable Development Goal 2 - Zero Poverty

The overall aim of SDG 2 is to *end hunger, achieve food security and improved nutrition, and promote sustainable agriculture*. The aim is to ensure that everyone everywhere has enough good-quality food to lead a healthy life. Achieving this Goal will require better access to food and the widespread promotion of sustainable agriculture. This entails improving the productivity and incomes of small-scale farmers by promoting equal access to land, technology and markets, sustainable food production systems, and resilient agricultural practices. It also requires increased investments through international cooperation to bolster the productive capacity of agriculture in developing countries.

The UN has defined 8 Targets and 13 Indicators for SDG 2. The targets are:

Target 2.1: Universal access to safe and nutritious food

Target 2.2: End all forms of malnutrition

Target 2.3: Double the productivity and incomes of small-scale food producers

Target 2.4: Sustainable food production and resilient agricultural practices

Target 2.5: Maintain the genetic diversity in food production

Target 2.A: Invest in rural infrastructure, agricultural research, technology and gene banks

Target 2.B: Prevent agricultural trade restrictions, market distortions and export subsidies

Target 2.C: Ensure stable food commodity markets and timely access to information

The three "means of achieving" targets include: addressing trade restrictions and distortions in world agricultural markets and food commodity markets and their derivatives. Four of the targets are to be achieved by the year 2030, one by the year 2020, and three have no target years. To achieve progress towards SDG 2 the world needs to build political will and country ownership. It also needs to improve the narrative around nutrition to make sure that it is well understood by political leaders and address gender inequality, geographic inequality, and absolute poverty.

Developing the introduction

Why is it important for educational community?

The SDGs are designed to bring people together to improve life around the world. Created by the United Nations, they are a set of common goals to help us overcome different global challenges. They seek to harmonize three core components for the future: economic growth, social inclusion, and environmental protection.

SDGs have a huge part to play in today's classrooms. As a blueprint for making the world a better place, these goals can help engage students and inform lesson plans. The SDGs break down each goal into a set of achievable sub-targets. Educators can use these sub-targets to show their students the ways in which they can make an impact on improving the world that they live in.

Students will get a greater knowledge of challenges faced not only in their own lives but also in the lives of others all around the world. These SDGs highlight the structures behind our society – economic, legal, and political – and their complexities. They shed light on difficulties that students may not be aware of or even take for granted. A great benefit of learning about the SDGs is that it opens students' minds to different communities and experiences outside of their own. In turn, this breeds empathy in the classroom.

Developing the introduction

Key dimensions of Sustainable Development 2 Zero Poverty

The key dimensions of SDG 2 are to end hunger, achieve food security and improved nutrition and promote sustainable agriculture. Unfortunately, in recent years all the world researches have shown that the number of people who suffer from hunger began to slowly increase again in 2015. It is estimated that nearly 690 million people are hungry, or to be precise 8.9 percent of the world population – up by 10 million people in one year and by nearly 60 million in five years. The world is not on track to reduce or achieve Zero Hunger by 2030. The World Food Programme shows that 135 million suffer from acute hunger largely due to man-made conflicts, climate change and economic downturns, but the COVID 19 pandemic situation also threatens to double the number. It is most necessary that actions need to be taken to provide food and humanitarian relief to the most at-risk regions. We need to end hunger and ensure access by all people, in particular the poor and people in vulnerable situations. To end all forms of malnutrition, double the agricultural productivity and incomes of small-scale food producers, ensure sustainable food production systems, and implement agricultural practices that increase productivity and production, to help maintain ecosystems that can help adaptation to climate changes. Maintain the genetic diversity of seeds, cultivated plant and domesticated animals and their related wild species all that managed at the national, regional, and international levels. Increase investment through international corporation, technology development and plant, to help enhance agricultural productive capacity in developing countries. Correct and prevent trade restrictions and distortions in world agricultural markets, adopt measures to ensure proper functioning of food commodity markets and their derivatives.

The interplay between Sustainable Development Goal 2 Zero Poverty and the acquisition of 21st century skills

Educators and workforce experts, often warn that our children need improved 21st-century skills. Without these skills, they will not be able to successfully participate in the global economy. They won't be adequately prepared for college and work. A broader range of skills is required to learn, communicate, collaborate, and solve problems in digital environments. Twenty-first-century skills have been identified by UNESCO, OECD, and others as competencies required for a sustainable future of the knowledge society. The aim is to learn the design principles involved in

Developing the introduction

the incorporation of these skills into the curriculum, find out possible ways to teach and assess them, and examine how this process could be personalized using Information and Communications Technology (ICT). Although the incorporation of 21st-century skills into the curriculum, teaching methodologies, and the use of ICT are all recurrent themes, there is still a need for further research into the design and implementation of new instruments for assessment and the ways in which the teaching-learning process can be personalized.

1

¹ <https://sdgs.un.org/>

Activity 1

Learning Tool Code	Title
SDG2-SDGfP	Zero hunger
Objectives	
<ul style="list-style-type: none"> - Students understand the importance of providing healthy and nutritious food for all people - Students analyze possible solutions to the problem of world hunger - Students create ways to solve the problem of food shortages in the world - Only the regulation of one's own attitude towards food - Analyze available research on the problem of world hunger - Team work and teamwork development - Application of critical thinking and problem solving - Application of critical thinking in the analysis of data from different sources - Developing a positive attitude towards solving the problem of world hunger 	
Activity details	
<p>Materials – see anex</p> <p>Duration – 2 hours</p> <p>Number of groups – 20 students with several groups of 4-5 students (6th grade, ages 12-13)</p>	
Instructions	
<p>Lesson one (30 min)</p> <ol style="list-style-type: none"> 1. Introduction (motivation) <p>Students answer the questions:</p> <p>Some of the questions are:</p> <ul style="list-style-type: none"> - List a few causes of food shortages in the world? - What do we mean by lack of food? - What is malnutrition? - What does the term "insecurity of available food" mean? <ol style="list-style-type: none"> 2. Students watch video: <ul style="list-style-type: none"> https://www.youtube.com/watch?v=zOyl6N4Teqo&t=133s 3. Students take a quiz (see annex) 4. Students discuss their answers. 	

Lesson two (1 hour 30 min)

1. Students learn about the goal of sustainable development "Zero hunger". (see annex)
2. Students will be able to define the terms malnutrition and discuss the causes of malnutrition
3. Comment on the data in the diagrams and analyze them
4. Explain the term "food insecurity"
5. Explain the importance of the nutritional value of food (meals)
6. Investigate on an interactive map the data on the frequency of hunger (malnutrition) in the world

Students do an online search about

<http://www.fao.org/state-of-food-security-nutrition/2-1-1/en/>

7. Comment on the impact of the pandemic on the number of undernourished
8. List UN proposals to reduce world hunger
9. Act in your home and local community, raise awareness of the problem of throwing food in the home, suggest ways to research food shortages in the community or grow your own food

Tips for the facilitator

- 1) Teacher introduces in the lesson
- 2) Teacher asks questions and tries to ask as many students possible.
- 3) Teacher gives quiz sheets and invites students to discuss and compare answers.
- 4) Teacher helps students create a solutions
- 5) Teacher prepares assignments (worksheets - tables, graphs, questions, conclusions)
- 6) The teacher instructs students how to read diagrams, compare data in diagrams, tables, search the data on the offered website, draw conclusions, instruct in the way of creating a project task
- 7) The teacher directs students to select relevant websites
- 8) The teacher gives feedback on the accuracy of the completed task

Debriefing

Students design a garden in which to grow a food or plant the vegetables.

Students can also conduct a survey about student nutrition.

Follow-up/Inspiration for the future

Information in social media, school's webpage.

Publication of project works and models on school websites.

References/Further reading

<https://www.youtube.com/watch?v=zOyl6N4Teq0&t=133s>

<http://www.fao.org/state-of-food-security-nutrition/2-1-1/en/>

<http://www.fao.org/state-of-food-security-nutrition/2-1-1/en/>

<https://www.youtube.com/watch?v=hNJcEnZjbs8>

<https://www.youtube.com/watch?v=T7u-n7qG2eg>

http://www.fao.org/3/ca9692en/online/ca9692en.html#chapter-1_1

<https://lora.bioteka.hr/mozemo-li-iskorijeniti-glad/>

<https://www.un.org/sustainabledevelopment/hunger/>

<https://prirucnik.hr/pothranjenost-definicija-simptomi-i-lijecenje/>

<http://www.fao.org/state-of-food-security-nutrition/2-1-1/en/>

Annex

LESSON 1. "Zero hunger"

1. Quiz "Zero hunger 2020"

1. The number of people who do not have enough food in the world does not change;

YES NO

2. Natural disasters caused by climate change (floods, fires, earthquakes, droughts) affect food shortages in a given area:

YES NO

3. The problem of world hunger occurs if food cannot be available in the place of residence (high prices, insufficiently grown plants)

YES NO

4. The type of food that people eat is not important because the main thing is to satisfy the need for hunger.

YES NO

5. Children are a particularly vulnerable group because if they do not have enough nutrients in childhood, serious health consequences can occur.

YES NO

6. The Covid-19 pandemic cannot affect the problem of food shortages.

YES NO

7. Lack of food is present in rural and urban areas.

YES NO

8. War conflicts can affect food availability in an area.

YES NO

2. **LESSON** "Zero hunger"

The Zero Hunger project began in Brazil in 2001 in response to inequalities in child development and food availability between rural areas and urban centers. It has led to the development of state measures to prevent hunger and poverty and the adoption of the right to food as a fundamental human right in the Brazilian Constitution.

Today we are talking about the zero hunger as one of the goals of sustainable development.

Defining hunger is both very simple and very complex. We all felt hungry, at least sometimes. But hunger is also still there one of the biggest and most serious problems of today. According to The United Nations World Food Program, one way Measuring hunger is calculating the caloric value of the food a person eats daily intake. On average, taking into account age, gender, region and lifestyle of the person, it is necessary to provide at least 2100 ccall per day

(kilocalories) for a normal and healthy life. In addition to the caloric value of food it is necessary to take into account its nutritional value - the amount of carbohydrates, protein, vitamins, minerals, fats and sugars, according to the rights of the healthy diet. If a person does not get enough nutrients to satisfy basic energy need we are talking about the state of malnutrition of the organism.

The measure of malnutrition is taken as an indicator of the prevalence of hunger in someone area.

According to UN research, in 2020, the number of people who do not have enough food has been increasing since 2014. Current estimates say nearly 690 million people are hungry (8.9% of humanity). Of this, 381 million relates to Asia and 250 million to Africa. However, the number of people who do not have enough food is growing the fastest in Africa.

There is also a measure we call food insecurity, by which we mean that people do not have regular access to safe and healthy food or do not have enough of it. It is estimated

that in 2019, approximately 750 million people were exposed to some form of food insecurity and that number is also on the rise.

If we take into account all levels of food insecurity, it is estimated that in 2019, approximately 2 billion people in the world did not have access to regular and safe food or were deficient or reduced in nutritional value (for example droughts, floods, etc.)

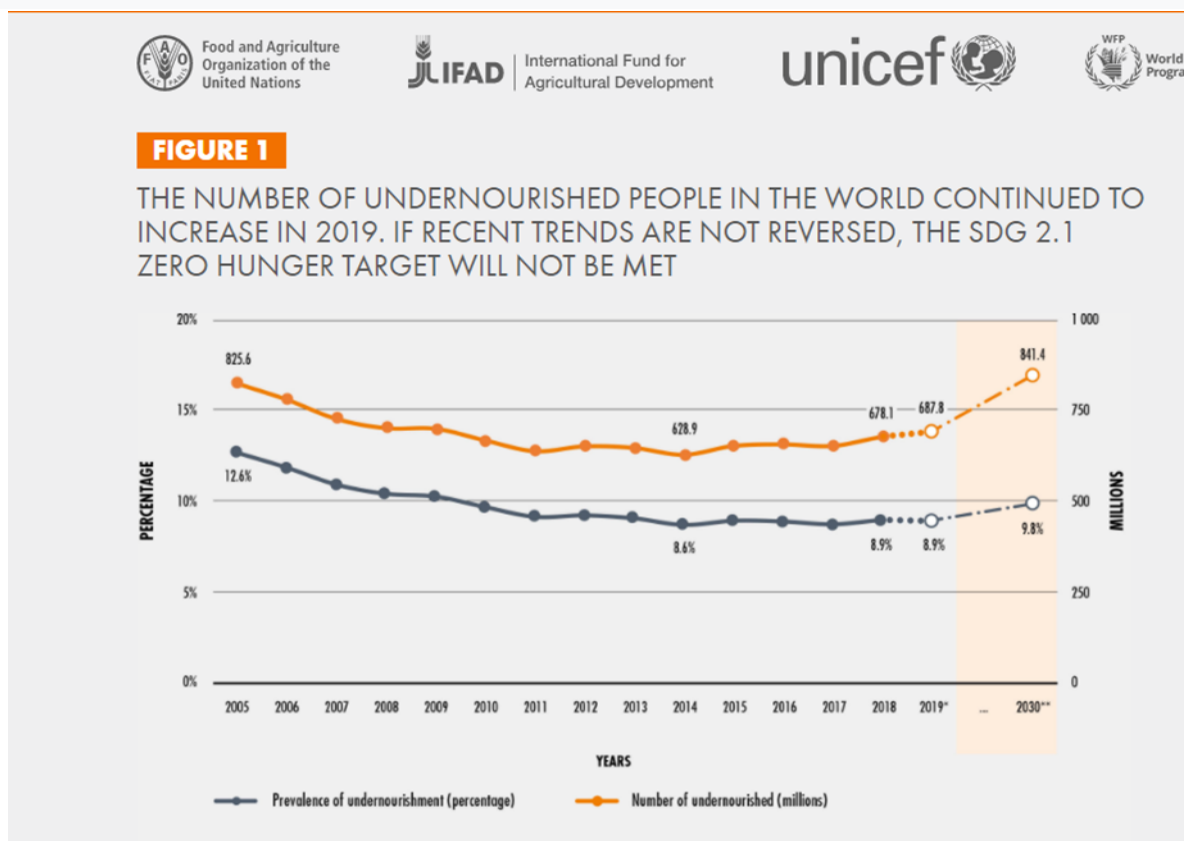
Search the interactive map of the incidence of malnutrition in the world

<http://www.fao.org/state-of-food-security-nutrition/2-1-1/en/>

Significantly, food insecurity is more prevalent among women than among men.

The Covid-19 pandemic has led to additional difficulties due to economic problems and reduced incomes, so it is estimated that the number of people at risk of food shortages will increase by approximately 130 million.

The diagram shows the number of malnourished people in the world as a percentage (blue line) and in millions (orange) according to the years from 2005 to 2019. Assuming a movement towards by 2030.



Answer the questions.

1. In what year was the lowest percentage of the undernourished in the world?
2. In what year was the largest number of people without enough food recorded?
3. What are the expectations from 2019 to 2030 regarding the number of people who do not have enough food?
4. Comment on the outbreak of the Covid -19 pandemic with predictions of an increase in the number of malnourished in the world from 2019.

On the other hand, 13% of the world's population is obese and an increase is observed in all countries of the world. Intake of fast and low-quality, but easily accessible foods rich in sugars and fats, as well as lifestyle changes and reduced physical activity are the main causes of obesity. In India, both extremes of the spectrum - the number of obese and the number of malnourished people - have increased simultaneously in the last 30 years.

According to the World Food Program, 135 million people suffer from acute hunger caused by conflict, climate change or economic crises.

According to UN decisions, increasing agricultural production and sustainable production is key to alleviating the risk of hunger.

What can we do in our local community?

How we can grow plants from seed, see in the video:

<https://www.youtube.com/watch?v=hNJcEnZjbs8>

How we can grow plants from plant waste, see in the video:

<https://www.youtube.com/watch?v=T7u-n7qG2eg>

Tasks:

1. Conduct research in your school on how many children are malnourished or do not have enough nutrients in their diet or make a proposal for research methods.
2. Design a garden where you can grow plants.
3. Make your own garden (like an video materials).

Activity 2

Learning Tool Code	Title
SDG2-SDGfP	Our actions are our future!
Objectives	
<ul style="list-style-type: none"> - Take action to prevent hunger, save food and understand the nutritional value of food; - Children are educated on how to improve the quality of food and how to produce food (fruits and vegetables) even at home; - To develop life skills and increase environmental awareness; - To support local food producers; - To start a healthy diet; - To reduce food waste; - To be more aware of the environment; - Claim values that are compliant with SDG2; - Respond positively to SDG2 achievement; 	
Activity details	
<p>Materials - fruit seeds, logbook</p> <p>Duration - /</p> <p>Number of groups - several groups of 4-5 students (7th grade, ages 11-12)</p>	
Instructions	
<p>Lesson one</p> <p><i>We do not throw out the seeds of the fruits we eat, but we throw them in nature, so the chances are higher that a tree will sprout and we can pick delicious fruits.</i></p> <p>With the students, we plant different types of fruits, vegetables, legumes in pots. Each student has his own diary of activities and keeps notes about this activity. We note when we have planted them, how we irrigate and fertilize them, how the plants thrive, and when we no longer have the conditions to look after them, we will give the pots to the farmers around us to plant them in the fields and get fruit. Occasionally students visit the fields where the plants are planted and continue to keep the diary. They will write the diary until the moment when they have fruits grown on the plants. The goal is for students to see and learn, to gain some knowledge on how to produce their own food. (see annex)</p>	

Lesson two

With the students, we visit a family that works with livestock in the nearest village in our municipality. We learn and see again how to raise animals and produce milk, meat, eggs, feathers, wool, leather. Everything that the students see, that they learn, they write down in their diaries. How animals are raised, how milk is obtained, what dairy products they can prepare from milk (yogurt, cottage cheese, cheese, oil), then how they can get from meat and wool from the animals as a finished product, etc.

With the organic fertilizer used by farmers, students increase their awareness of environmental protection and become more aware of the negative effects of chemical fertilizers on the soil and the entire plant and animal world. In the activity diary, students note everything they learn, from farmers and ranchers to organic fertilizer which is also very useful and makes the soil more fertile which produces beautiful and organic fruits.

Students present their research and conclusions in the form of a PowerPoint presentation or using a Story Jumper.

Tips for the facilitator

The educator guides the students and helps them in making presentations.

Debriefing

Students can make a PowerPoint presentation or retell their views from the logbook using Story Jumper.

Follow-up/Inspiration for the future

Students can take pictures of the whole process of planting seeds and growing the plants and together with the data from the logbook make brochures using the Canva application

References/Further reading

<https://www.youtube.com/watch?v=2zEoAZMXMcs>

https://www.youtube.com/watch?v=6racl0_xZO4

<https://www.youtube.com/watch?v=Eh5FvmujQn8>

<https://www.youtube.com/watch?v=G9a7R16MCzq>

Annex

Lesson one
Logbook

PLANT JOURNAL

I planted seeds from:----- on -----
(date)

Seed growth and development:

How my plant looks:

(describe with words or drawing)

(date)

(height)

(date)

(height)

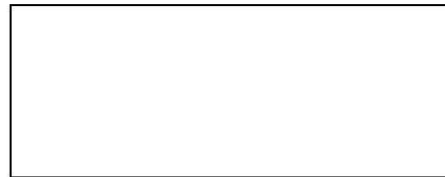
(date)

(height)



(date)

(hight)



(date)

(hight)



(date)

(hight)

How I helped the seed grow into a plant?



Sustainable Development Goal 3

Good Health and Well-being

SDG 3

Sustainable Development Goal 3 (SDG 3), regarding “Good Health and Well-being”, is one of the 17 Sustainable Development Goals established by the United Nations in 2015. The official wording is: “To ensure healthy lives and promote well-being for all at all ages.

The targets of SDG 3 cover and focus on various aspects of healthy life and healthy lifestyle. Progress towards the targets is measured using twenty-one indicators.



The Targets

SDG 3 has 13 targets and 28 indicators to measure progress toward targets.
Target 3.1: Reduce maternal mortality

Target 3.2: End all preventable deaths under five years of age

Target 3.3: Fight communicable diseases

Target 3.4: Reduce mortality from non-communicable diseases and promote mental health

Target 3.5: Prevent and treat substance abuse

Target 3.6: Reduce road injuries and deaths

Target 3.7: Universal access to sexual and reproductive care, family planning and education

Target 3.8: Achieve universal health coverage

Target 3.9: Reduce illnesses and deaths from hazardous chemicals and pollution

Target 3.a: Implement the WHO framework convention on tobacco control

Target 3.b: Support research, development and universal access to affordable vaccines and medicines

Target 3.c: Increase health financing and support health workforce in developing countries

Target 3.d: Improve early warning systems for global health risks

Why is it important?

Not only does disease impact the well being of an individual, it burdens family and public resources, weakens societies, and squanders potential. The health and well being of people at all ages therefore lies at the heart of sustainable development. Protection from disease is not only fundamental to survival, but it enables opportunity for everyone and strengthens economic growth and prosperity.

SDG 3 aims to achieve universal health coverage, that seeks equitable access of healthcare services to all men and women. It proposes to end the preventable death of newborns, infants and children under five (child mortality) and end epidemics.

Good health is essential to sustainable development and the 2030 Agenda. It focuses on broader economic and social inequalities, urbanization, climate crisis, continuing burden of HIV and other infectious diseases, not forgetting emerging challenges such as non-communicable diseases. Considering the global pandemic of COVID-19, there is a need to give significant attention towards the realization of good health and well being on a global scale.

The Challenge

Poor health constitutes suffering and deprivation of the most fundamental kind. Over the years, significant strides have been made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality. Globally, the incidence of major infectious diseases has declined since 2000, including HIV/AIDS, malaria, and TB, but the challenge of these and new pandemics remains in many regions of the world. An immense progress is globally made in finding newer treatments, vaccines, and technologies for healthcare, but universal affordable access to healthcare remains a challenge.

Before the COVID pandemic, major progress was made in improving the health of millions of people. Significant strides were made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality. But more efforts are needed to fully eradicate a wide range of diseases and address many different persistent and emerging health issues. By focusing on providing more efficient funding of health systems, improved sanitation and hygiene, and increased access to physicians, significant progress can be made in helping to save the lives of millions.

How can we address this?

The international community, through Goal 3, has committed itself to a global effort to eradicate disease, strengthen treatment and healthcare, and address new and emerging health issues. It calls for innovation, and research in these areas to further enhance public policy efforts. A holistic approach to better health will require ensuring universal access to healthcare and to making medicine and vaccines affordable. It also calls for a renewed focus on mental health issues. Suicide is the second leading cause of death globally between the ages of 19 to 25. And finally, health and wellbeing are closely linked with the quality of our environment, and Goal 3 also aims to substantially reduce the numbers of deaths and illnesses caused by air, water, and soil pollution and contamination.



Links to other SDGs

SDG 3 is interwoven throughout the 2030 Agenda, with its targets directly linking to targets in other goals. Among these are targets of :

SDG 2; 2.2 (end all forms of malnutrition),

SDG 4; 4.1 (free, equitable and good-quality secondary education), 4.2 (good-quality early childhood development), 4.7 (knowledge and skills for sustainable development),

SDG 5; 5.2 (eliminate all forms of violence against women and girls in the public and private spheres), 5.3 (eliminate all harmful practices, including female genital mutilation), 5.6 (universal access to sexual and reproductive health and reproductive rights),

SDG 6; 6.1(access to drinking water), 6.2 (access to sanitation),

SDG 7; 7.1 (access to modern energy services),

SDG 9; 9.5 (enhance scientific research /increase number of R&D workers),

SDG 11; 11.6 (air quality and municipal waste),

SDG 13; 13.1 (resilience to natural disasters),

SDG 16; 16.1 (reduce violence and related death rates)

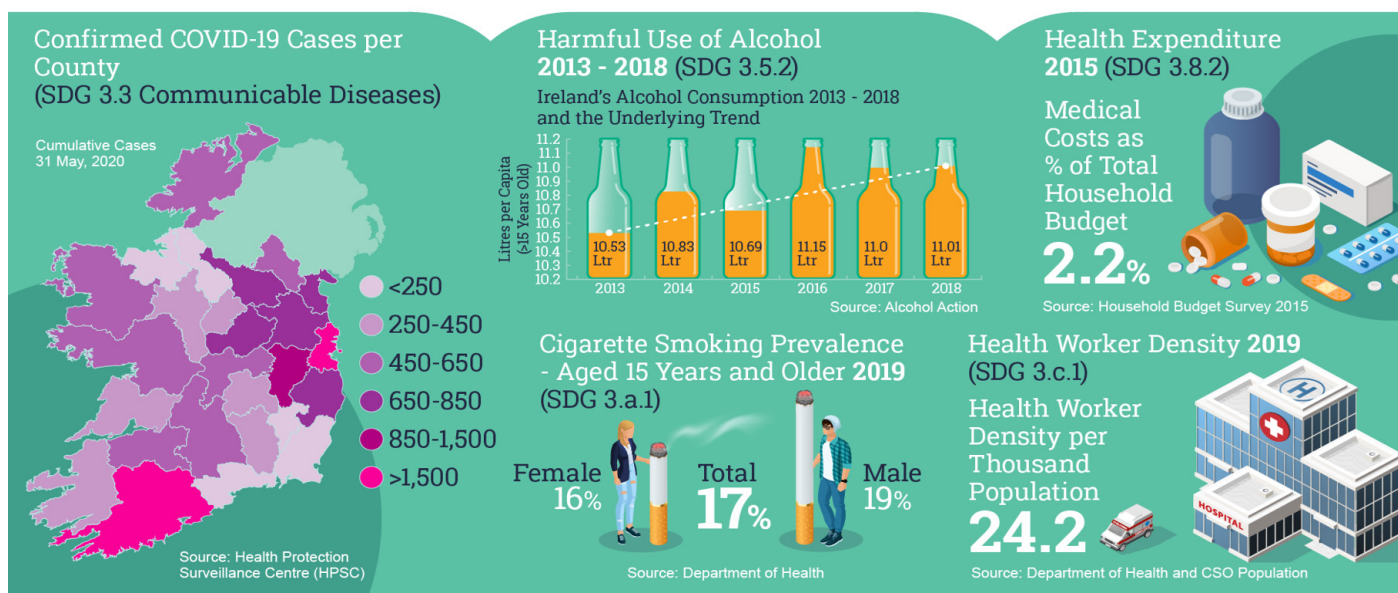


An
Phríomh-Oifig
Staidrimh

Central
Statistics
Office



Goal 3 - Good Health and Well-Being



Goal 3: Ensure healthy lives and promote well-being for all at all ages



According to estimates from 2012, around 38 million deaths per year, accounting for 68 per cent of all deaths worldwide, were attributable to non communicable diseases.

In 2012, an estimated 889,000 people died from infectious diseases caused largely by faecal contamination of water and soil and by inadequate hand-washing facilities and practices resulting from poor or non-existent sanitation services. In 2012, household and ambient air pollution resulted in some 6.5 million deaths.



In 2012, an estimated 800,000 people worldwide committed suicide, and 86 per cent of them were under the age of 70. Globally, suicide is the second leading cause of death among those between the ages of 15 and 29.

How can you act?

1. Teach as many people as you can, the importance of eating a balanced diet, and to follow hygiene practices
2. Help or volunteer at free medical camps to help more people access healthcare
3. Help create awareness about health issues and health conditions
4. Become an ally for people who are challenged by mental illness and support them without judgment.

3 GOOD HEALTH AND WELL-BEING





Developing the introduction

Overall Aim of Sustainable Development Goal 3

Good health and well-being - Ensure a healthy life and promote the well-being of all at all ages

The World Health Organization (WHO) has defined health as "a state of complete physical, mental and social well-being and not necessarily the absence of disease or infirmity."

Mankind has made significant progress in improving the health of the world. We learned how to treat and control diseases that killed millions.

The right to health is recognized in a number of international and regional instruments, starting with the Universal Declaration of Human Rights (Article 25) and including the International Covenant on Socio-Economic Rights (Article 12), the Convention on the Rights of the Child (Articles 6, 24), The Convention on the Elimination of All Forms of Discrimination against Women (Articles 10, 11, 12, 14) and the European Social Charter. The right to health should not be understood as the right to be healthy; it is impossible to provide protection against every possible cause of ill health. It is the right of everyone, without discrimination, to enjoy the various services, facilities and goods, as well as appropriate living conditions, which are necessary to stay healthy as much as possible. The right to health includes not only health services, as well as conditions that determine our health, including: access to safe drinking water, adequate sanitation and shelter, adequate food, healthy working conditions and the environment, as well as access to health education and information.

Why is it important for educational community?

One of the important directions of preventive education in the school space is the protection of the health of young students. This training session is designed to expand students' knowledge of the importance of health, the formation of an active understanding of the concept of a healthy lifestyle, prevention of bad habits.

Through various activities and lessons to achieve the following:

- Cessation of epidemics of Covid-19, AIDS, tuberculosis, malaria and tropical diseases, control of hepatitis, waterborne diseases and other communicable diseases.
- Reducing premature mortality from non-communicable diseases through prevention and treatment and promoting mental health and well-being.
- Healthy eating is the key to good health and success in school.
- Reducing the number of deaths and injuries worldwide from road accidents.
- Prevention of drug abuse and harmful alcohol use.

Key dimensions of Sustainable Development 3

- To reduce the number of mothers who die during childbirth due to complications.
- To prevent mortality in newborns and children under 5 years of age.
- End epidemics and infectious diseases such as HIV / AIDS, Hepatitis and other diseases or communicable diseases.
- Educate people on topics such as: prevention and abuse of drugs and alcohol and mental health problems.
- Provide information on family planning, sex education and reproductive health.
- To ensure that everyone enjoys the right to health, which includes high-quality medical care, affordable and economical medicines and vaccines.
- To halve deaths and injuries from road accidents globally.
- Significantly reduce the number of deaths and diseases from hazardous chemicals and air, as well as polluted waters and soils.

The interplay between Sustainable Development Goal 3 and the acquisition of 21st century skills

Improving the health culture of parents, family, adolescents and society;
 Increasing knowledge and facilitating access to information on issues related to conception, pregnancy and childbirth, healthy eating and lifestyle, raising and caring for children, with a view to their full and harmonious physical and mental development;
 Improving the quality and providing easier access to modern and diverse health care, therapies and consultations for families and children;
 Supporting families and children in financial difficulties in gaining access to therapies and medical care.

Activity 1

Learning Tool Code	Title
SDG3-SDGfP	Health formula
Objectives	
<p>To give an idea of what a healthy lifestyle is; make students think about the need to be healthy, introducing a healthy lifestyle; explain the role of health in human life and activity; development of society.</p> <ul style="list-style-type: none"> • continue to acquaint students with the concept of "health"; • to deepen students' knowledge of factors that strengthen and weaken health; • continue to form ideas for a healthy lifestyle in adolescents. • promoting a responsible attitude of students towards their health; • continue the formation and development of moral qualities of the individual; • promotion of hygiene education. 	
Activity details	
<ul style="list-style-type: none"> • Materials - tests, a board with the words "Health Factors", tables "The Harm of Smoking", "The Harm of Alcohol", posters with proverbs and sayings about health. • Duration - The course of the lesson-48 minutes • Number of groups - several groups of students (5th grade, ages 11-12) 	
Instructions	
<p>1. Organizational moment - 2 minutes</p> <p>Teacher: Hello dear students. Congratulations, which means I wish you good health! Have you ever wondered why when greeting people there is a desire for each other's health? Probably because human health is the most important value. But, unfortunately, we start talking about health when we lose it!</p> <p>Today we have an unusual lesson, today you are not just spectators of the actions that will take place on the stage - today we will present a formula for health together with you, the success of our common cause will depend on each of you.</p> <p>Each explanation is a team, as you know, where you need to have clarity and coherence. The success of the team depends on these qualities. Throughout the lesson, each team can earn points and then we will determine the winner.</p>	

2. Updating students' knowledge - 5 minutes

Everyone wants to be smart, strong, beautiful, healthy. Over the centuries, people have developed rules for optimal behavior, following which you can most effectively maintain the health of the body of the perfume. Even the nineteenth German philosopher Arthur Schopenhauer says: In general, our happiness is based on health. With him, everything becomes a source of pleasure, while without it, absolutely no external good can deliver pleasure.

But let's go back to the beginning. Before we derive a formula for health, let's clarify why our health depends?

Students offer answers. The most active participants receive points.

- Health is when nothing hurts;
- Health is when you feel good;
- Health - from the word "healthy";
- Health is flexibility and harmony;
- Health is endurance;
- Health is harmony;
- Health - when a person has a good appetite;
- Health is beauty;
- Health is when nothing prevents you from enjoying life;
- Health is strength;
- Health is when you sleep well;
- Health - when you wake up in the morning happy and cheerful;
- Health - when you are ready to do any work, etc.

Until 1940, health meant no disease. A person who has no signs of illness is considered healthy.

The first stage is characterized by the opposition of the concepts of "health - disease".

The second stage of the interpretation of health is related to the inclusion in its definition of the concept of the external environment: health is a state of the body in which the functions of its organs and system are balanced with the external environment and there are no painful changes. Health is not just the absence of disease, it is a state of physical, mental and social well-being.

So representatives from every community who are well acquainted with health issues are invited. If you answer correctly, you are taking a step forward; if you answer incorrectly, you take a step back.

3. Formation of the concept of "health" and ideas for a healthy lifestyle

Warm-up - 5 minutes

1. Do you agree that exercise is a source of vitality and health? (Yes.)
2. Is it true that chewing gum preserves teeth? (No.)
3. Is it true that cacti emit radiation from a computer? (No.)
4. Is it true that more than 1,000 people die from smoking every year? (Yes.)
5. Do bananas really cheer you up? (Yes.)
6. Is it true that carrots slow down the aging process of the body? (Yes.)
7. Is it true that there are harmless drugs? (No.)
8. Is it easy to quit smoking? (No.)
9. Is it true that milk is healthier than yogurt? (No.)
10. Are adults more likely than children to break their legs? (Yes.)
11. Is it true that lack of sun causes depression? (Yes.)
12. Is it true that in the summer you can stock up on vitamins for a whole year? (No.)
13. Is it true that children under the age of 15 are not allowed to do weightlifting? (Yes.)
14. Is it true that you should drink 2 glasses of milk every day? (Yes.)
15. Is it true that a child needs 8 hours of sleep at night? (No.)

Anyone who has given more than 10 correct answers receives points and sits down. And the others are offered to take a step forward. Please bend down and reach the floor with your palms. Then hold your hands behind your back and sit a few times. What can you call what we are doing now? (Warming up, physical activity, exercise, in a word - an active lifestyle!) Does it support health or not? (Yes.)

3 minutes - "Health factors" are written on the board. The teacher writes "active lifestyle" in the field for positive results.

Please raise your hands, which have never been sick. And who more than once a year? And who is more than 2 times a year.

Ill or not	Number of students
they have never been sick	
more than once a year	
more than 2 times a year	

20 minutes- Look, we're used to the fact that it's natural for a person to get sick! But this is the wrong setting! Let's change our way of thinking and remember: it is natural for a person to be healthy! Scientists prove that a person should live 150-200 years! For example, the ancient Greeks believed that dying at age 70 was almost the same as dying in a cradle. According to historians, the life expectancy of the Pelasgians (Ancient Greek: Πελασγοί) are Paleo-Balkan tribes, the oldest inhabitants of the Southern Balkans, who according to ancient Greek authors are the people who inhabited the territories of ancient Greece before the Greeks. At the same time, until the end of their days, they kept their vitality and did not turn white.

Today, doctors say: human health depends 10% on heredity, 5% on the work of doctors. The remaining 85% are in the hands of man himself. This means that our health depends on our habits, on our efforts to strengthen it.

Various factors affect people's life expectancy - heredity, environment, bad habits, lifestyle. Now I suggest you calculate the years are released from nature to assess your chances of longevity using a test compiled by American doctors.

Students complete tests at the end of the lesson.

As banal as it may sound, but health is the basis for a prosperous life, a successful career. It is very high, people have long understood the value of health and strive to preserve it from an early age.

To maintain the level of efficiency, the Japanese begin to harden at 4 years of age. great mental stress requires great physical endurance. So, one of the factors that has a positive effect on health is hardening.

Teacher. I often ask, "How do I harden so I don't catch a cold?"

Someone has already managed to achieve a result on this issue - they stopped being afraid of the cold and forgot about colds. But many, despite the hardening, fell ill again and naturally stopped hardening.

Another easy way to harden. It is safe and accessible. The fact is that there are parts of the body that can be hardened to strengthen the whole body. These are, above all, our feet.

Start with them. You need to jump barefoot on the street or balcony for at least a few seconds. Literally in seconds. And immediately after that put on woolen socks, even specially warmed in advance. After a few days you will feel that you start to like the cold, it becomes pleasant, and there is no sign of colds.

Teacher. To talk about health, it is imperative to remember about stress. They are waiting for us every step of the way. They say that suddenly waking up and getting up is already stressful. The lessons are stressful. The road is stressful. Parents quarreled ... Argued with friends ... So ... But you have to learn to avoid fatigue, nervous stress, to be energetic and effective.

Try to determine your physical condition by matching its content, in the answer sheet against the number of the statement, put the answer "yes", otherwise - "no". If you are at a loss of choice, put both answers.

I feel like an absolutely healthy person.

1. Lately, I'm starting to get annoyed by things I'm calm about.
2. I became lethargic and indifferent.
3. It is difficult for me to keep in mind the deeds that need to be done today.
4. I've found it harder to study lately.
5. I have an even and calm character.
6. I am tormented by pains in my temples and forehead.
7. I have a heart attack.
8. It's hard for me to concentrate on a task.
9. Sometimes I feel sick.
10. I often have a headache.
11. I stopped liking my teachings and hobbies.
12. I constantly want to sleep during the day.
13. My relatives began to notice that my character was deteriorating.
14. I like working in a team.
15. I go to school with pleasure.
16. Most of the time I have restless sleep.
17. I feel tired all the time

Fill in and calculate your points:

The answer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
+	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1
-	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0

If you get more than 6 points, this indicates the presence of an initial form of chronic fatigue.

Teacher. Anyone who has collected more than 6 points should think about a more rational daily life, to reduce the workload, perhaps, to normalize relations with peers and parents. If you have won or learned to the point that you feel, "I can't take it anymore!" - you have to turn on the tap and ... wash your hands. Don't even wash them, just keep them under cool water. Of course, it would be better to go out into the fresh air, to walk or run fast, to do some breathing exercises. But if this is not possible, cold water will help, which relieves fatigue and probably tension and even stress.

Life sometimes presents unpleasant surprises: the mood is therefore insignificant, depressed, sometimes desperate, and sometimes hopeless. Naturally, this has the most detrimental effect on health. What can you advise here? The main thing is not to get hung up on your problems! Remember the good things life has given you.

The teacher writes "good mood" on the board.

Teacher. Another great stress reliever is song. When you feel bad, try singing. And today your classmate sings for you. (Music of a singing child is played.)

Teacher. Your applause is not only gratitude to the singer, but also a massage of your palms, and through them a massage of your internal organs. It has been proven that the more applause there is in the hall, the better the mood of the audience. Therefore, many artists, before singing, ask the audience to applaud.

Teacher. One way to be happy, according to Americans, is to be physically active. It is not entirely clear why, but any physical activity gives a healthy person real pleasure.

According to some scientists, during exercise in the brain produces a kind of natural medicine, which leads to euphoria. For this running, skiing, any sport, dancing and more. And another entry appears on our board in the column with positive facts - "sports".

Teacher. Health is not just a personal matter for everyone. A healthy person lives a full life and brings great benefits to society. A healthy lifestyle is a system of human behavior, including physical culture, creative activity, high moral attitude towards the people around, society and nature. Man is influenced by the social environment in which he lives - society as a whole, family, acquaintances, colleagues. This has been happening all my life. Children copy adults, for teenagers the opinion of their peers is important. But the influence of others can be not only positive but also negative.

Teacher. Unfortunately, physical, mental, moral and economic damage to man and society is caused by drunkenness, alcoholism, drug addiction and such a harmful habit as smoking. Unfortunately, all these vices are widespread among young people. Young people sometimes do not realize what harm it can do to their health.

And now one person from each team to enter the competition.

There are many sayings and sayings about drunkenness. Try to explain how you understand their meaning.

Proverbs competition

1. The drunken sea is to his knees, and the puddle to his ears.
2. What he thinks sober is in the language of a drunk.
3. Drinking to the bottom does not mean seeing good.

The teacher suggests to supplement the list of proverbs and sayings for the members of the associations. The most active receive points, and the word alcohol is written in the column with negative factors on the board.

Teacher. In 1988, the World Health Organization declared May 31 World No Tobacco Day. The world community has been tasked with ensuring that the problem of smoking disappears in the 21st century. Quitting smoking is difficult, but possible. Question to the associations: what effect does smoking have on the human body?

(Students respond.)

The most active and complete answers receive points.

After discussing the issue, the teacher writes the smoking in the column with negative factors on the board.

Teacher. One of the most serious problems of our time is drug use. Drug addiction, which develops like a cancerous tumor, affects not only the body but also the soul. The later this disease is recognized, the more difficult the treatment process, which, unfortunately, does not always lead to full recovery.

There is a paradoxical fact all over the world: despite all efforts in the fight against drugs, young people's awareness of the real consequences of drug use is declining. This is partly due to the active introduction of a number of drug myths in the creation of young people.

4. Final synthesis - 10 minutes

Each association was tasked with unraveling one of these myths.

Team 1. The first myth: "Try - everyone tries."

Statistics show that more often adolescents with low psychological foundations fall victim to such false arguments: conflict, petty theft, fraud, with an unbalanced character. Such people are not capable of purposeful activity, they do poorly in school. Later, they become drug dealers, which is inevitable, because only in this way can they secure money for drugs.

Team 2. Myth two: try not to have harmful consequences.

It is a lie. Addiction to some drugs can occur after one or two doses. There are individual differences in the sensitivity of the body and death is possible with the first infection. Under the conditions of the secret artisanal production of medicines, it is impossible to get rid of harmful impurities and to dose exactly the substance that can lead to severe poisoning.

Team 3. The third myth: "Try it - if you don't like it, stop taking it."

Many are convinced that there will be no particular problems, because a person with a certain will, in a state of immediate will, is able to immediately and irrevocably give up drugs. But when any drug is used, "light" and "heavy", the will suffers above all. What happens, what narcologists call an "energy decline": the individual's willpower weakens, he becomes incapable of productive activity, often stops learning, leaves work. At present, medicine is not able to provide effective help to drug addicts, as there are no real means in its arsenal to suppress mental addiction.

Team 4. The fourth myth about the existence of "harmless" drugs.

There are no harmless medicines! Not all drugs are physically addictive, but they all have a detrimental effect on the personality. Mental addiction often develops even with the use of "soft" drugs: the interest in what happens in my life is lost, the desire to work, study disappears, one ceases to be interested in what it looks like.

Teacher. Anyone can become the object of attention of a "benefactor" who has tried to attract the most dangerous "profession" for a person. In this case, each person must be ready to resolutely reject such torture and remember that this "nice" friend usually pursues the most selfish goals, using cruelly inexperienced.

Remember that one of the addicts will not continue the example with drugs, everyone just wanted to try, to satisfy curiosity. And the end, as a rule, is tragic: human destiny, life itself is ruined!

The teacher writes the word dependency in the column with negative factors on the board.

Teacher. As one of the "famous" nutritionists said: "A generation of people who eat healthily will only revive humanity and make diseases so rare that they will be seen as something extraordinary." A young growing body needs 30 different types of food every day. But which, now tell yourself.

Each association on its poster should list the products needed for the human body. The team that does better with this task will receive points.

Teacher: So we analyzed the main factors influencing health. What conclusion can be drawn? How to complete the phrase "The formula for health is ...?"

Whether our country is healthy or not depends on you and me, on each of us!

5. Summary of the lesson. Reflection - 5 minutes

Tips for the facilitator

At the end of the lesson, summarizing the results, identify the most active participants who have collected a large number of points.

Debriefing

Homework - Students' tasks

Fill in the health card. In the "My actions" column, record such events as visits to the doctor, if necessary, adherence to the daily routine, advice from doctors and parents, sports, diet, etc.

My illnesses, imperfections in Recommendations from doctors, My appearance, bad habits specialists, parents actions

My health and ecology

In front of you is a test compiled by American doctors. Try to calculate how many years nature has allowed you.

Test

The average life expectancy of people is constantly increasing. But everyone, of course, is interested in his chances for longevity. Probably this test will clarify a lot. Answer the questions completely honestly and think about some of them. Maybe you need to change your lifestyle in some way. Age does not matter. It doesn't matter if you are 14 or 50. But the sooner you give up bad habits, the better. Thus:

❖ Take the number 72. From it you have to subtract or add the points marked as a result of your answers.

- If you are a man, subtract 3 from 72. Women should add 4 to 72.
- The average life expectancy for men is 69 years. Women - 76 years old.
- If you live in a city with a population of over 1 million, subtract 2 years.
- If you live in a town with a population of less than 10 thousand people, add 2 years.
- If you plan to engage in mental work in the future, subtract 3 years; if you plan to do physical work, add 3.
 - If you exercise five times a week, for at least half an hour, add 4 years, if three or twice add 2 years.
 - If you are going to get married in the future, add 5 years, if not, then subtract one year for every 10 years of single life (starting at age 25)
 - If you sleep constantly for more than 10 hours, subtract 4 years, if there is nothing for 7-8 hours, do not subtract anything.
 - If you do not sleep well, take 3 years. Accumulated fatigue, such as too much sleep, is a sign of poor circulation.
 - If you are a nervous, reserved, aggressive person, subtract 3 years, if you are calm, balanced - add 3 years.
 - If you are happy, add 1 year, if you are unhappy, subtract 2 years.
 - If you will receive secondary education, add 1 year, if higher education - 2 years.
 - If one of your grandparents lived to 85, then add 2 years, if one of them dies suddenly before reaching 50 (died of stroke, heart attack ...), subtract 4 years.
 - If any of your relatives died of cancer, heart attack, etc. before reaching the age of 50.... subtract 3 years.

- If you smoke more than three packs of cigarettes a day, take out 8 years, if 1 pack - 6 years, if less than a pack - 3 years.
- If you drink at least a drop of alcohol every day, remove 1 year.
- If your weight exceeds the normal for your age and height by 20 kg, subtract 8 years, if 15-20, then 4 years, if 5-15 kg-2 years.

The final number is the age you can live to. As you can see, various factors affect life expectancy. Heredity occupies an important place among them. But a lot also depends on the person personally: on his habits, way of life. Look at the different points of the test. Make sure once again that smoking, alcohol, aggressive behavior, passive lifestyle and other harmful factors shorten life expectancy.

The environment also has an impact. It is no coincidence that the test contains a question about the settlement in which the person lives. Cities with a population of over 1 million have a negative impact on the health of the people living in them and, consequently, on their life expectancy. Why do you think this is happening?

Try to find factors for life expectancy in the test, depending on the will of the person.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.apha.org/what-is-public-health>

Annex

Health factors" are written on the board. The teacher writes "active lifestyle" in the field for positive results.

Please raise your hands, which have never been sick. And who more than once a year?

And who is more than 2 times a year.

Ill or not	Number of students
they have never been sick	
more than once a year	
more than 2 times a year	

Try to determine your physical condition by matching its content, in the answer sheet against the number of the statement, put the answer "yes", otherwise - "no". If you are at a loss of choice, put both answers.

I feel like an absolutely healthy person.

1. Lately, I'm starting to get annoyed by things I'm calm about.
2. I became lethargic and indifferent.
3. It is difficult for me to keep in mind the deeds that need to be done today.
4. I've found it harder to study lately.
5. I have an even and calm character.
6. I am tormented by pains in my temples and forehead.
7. I have a heart attack.
8. It's hard for me to concentrate on a task.
9. Sometimes I feel sick.
10. I often have a headache.
11. I stopped liking my teachings and hobbies.
12. I constantly want to sleep during the day.
13. My relatives began to notice that my character was deteriorating.
14. I like working in a team.
15. I go to school with pleasure.
16. Most of the time I have restless sleep.
17. I feel tired all the time

Fill in and calculate your points:

The answer	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
+	0	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1
-	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0

If you get more than 6 points, this indicates the presence of an initial form of chronic fatigue.

Teacher. Anyone who has collected more than 6 points should think about a more rational daily life, to reduce the workload, perhaps, to normalize relations with peers and parents. If you have won or learned to the point that you feel, "I can't take it anymore!" - you have to turn on the tap and ... wash your hands. Don't even wash them, just keep them under cool water. Of course, it would be better to go out into the fresh air, to walk or run fast, to do some breathing exercises. But if this is not possible, cold water will help, which relieves fatigue and probably tension and even stress.

Activity 2

Learning Tool Code	Title
SDG3-SDGfP	"Health - the greatest wealth"
Objectives	
To expand and deepen students' understanding of the importance of health, to form an active understanding of the concept of a healthy lifestyle, to prevent the emergence of bad habits.	
Activity details	
<ul style="list-style-type: none"> ❖ Materials- colored paper, felt-tip pens, round stickers, stickers in the form of clouds, a poster with the image of the sun, an information poster, a box, cards with the names of flowers, questionnaire forms, Computer, multimedia projector. ❖ Duration – 60 minutes ❖ Number of groups - several groups of students (5 grade, ages 11-12) 	
Instructions	
<p>"Without health I have no happiness." - Folk wisdom</p> <p>Introduction</p> <p>1. Exercise "Dating" (5 min.)</p> <p>Students take turns naming their names and telling some positive facts about themselves, starting with the words "I don't want to brag, but I do."</p> <p>2. Discussion of the rules for group work (3 minutes)</p> <p>The teacher informs the participants about the basic rules for group work:</p> <ul style="list-style-type: none"> • Take an active part. • Follow the regulations. • Listen carefully, do not interrupt. • Do not criticize. • Express only your own point of view. • Be tolerant. <p>Students discuss the rules and, if necessary, add their own.</p> <p>3. Exercise "Waiting" (3 minutes)</p> <p>Students receive small round stickers on which to write exactly what they expect from the training. Then everyone in turn presents their expectations, and then attachec the sticker to the poster with the image of an hourglass (at the top of the clock).</p>	

II. Main Part

1. Exercise - warm-up (5 min.)

In order to create an atmosphere of friendship, to activate the students and to prepare them for further work, the teacher invites the participants, who for example have a sister, to exchange places. If there are such people in the group, they change places. Then the teacher continues, "Get up and swap places all these..."

- who have a brother;
- who are in a good mood;
- who have earrings on their ears;
- who have brown eyes;
- which have an optimistic character;
- who have poetic talent;
- who have a birthday in March;
- who have done morning gymnastics;
- who are willing to continue working;
- who love to sing.

During the exercise, students move around the classroom, settling into a new row.

2. Exercise "Sun" (7 minutes)

Students work in groups, united in the fact that you can use the game "Flower Garden". To do this, the participants take turns taking out cards with the words "Camomile", "Narcissus", "Tulip" from a pre-prepared box, after which the teacher suggests to unite in groups according to the drawn cards. Then the students are given the task to determine what helps a person to be healthy, what is health, without which it is impossible to imagine a healthy person. The answers are written on strips of yellow paper, after which the participants attach them to a poster with a symbolic image of the sun.

3. Brainstorming "What is health?" (3 min)

Students continue to work in groups. Within 2-3 minutes they should define the term "health". The answers are written on separate sheets, then placed on the board and the results are discussed.

Information message (5 minutes)

According to the WHO definition, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

The history of the development of health knowledge is more than 2000 years old. At the heart of the formation of worldviews for the preservation of the greatest value, which is human health, are the ancient Greek philosophers (Heraclitus, Democritus, Plato, Aristotle, Hippocrates, etc.). For example, Aristotle emphasizes that "human health is happiness", and Hippocrates understands the human body as a whole, attaches great importance to issues of ethics, behavior, attention to the body, its nature and environment, living conditions, hygiene. Modern scientists working on the development of the doctrine of health give 79 definitions of health proposed by experts from different countries, which shows the flexibility of this concept.

Scientists claim that 10% of human health depends on heredity, 5% - on the level of development of medicine, 5% - on the environment, the remaining 80% - in the hands of ourselves. So our health depends on our habits and efforts.

Folk wisdom says: "Health is worth more than wealth", "People often get sick because they do not know how to care", "The price of health is known only to those who have lost it", "It would be health, and all the rest we will make money "; Without health there is no happiness".

He who leads a healthy lifestyle is usually calmer and more balanced. And those who are inattentive to their health, often get nervous, conflict, sick, do not believe in themselves. And when a person loses faith in his own strength, he ceases to value himself and may even harm himself, for example, to start smoking or drinking alcohol.

5. Exercise "What does it mean to be healthy?" (3 min.)

The teacher attaches a poster to the board: "For me, being healthy means. . ." Students determine whether they agree with each statement by raising or lowering their hand. For me, being healthy means:

- Enjoy communication.
- Live to a ripe old age.
- See doctors often.
- Be calm and balanced.
- A little sleep.
- Eat healthy food.
- Never get sick from something more serious than a mild cold.
- Have a normal weight.

- To harden.
- Exercise.

Exercise "Destroyers of Health" (5 min.)

6. Exercise with a questionnaire "Level of your physical development" (3 minutes)

Students are given sheets of paper in the form of "clouds" on which to write factors that are harmful to health. The "clouds" are then attached to the existing poster with the image of the sun (see exercise 2). Then the students share their impressions, emotions and conclusions that they have made themselves.

Students receive forms and answer the following questions:

At the end of the questionnaire, students count their results. If most of the answers are "YES", it means that the students are at the best level of their physical development.

<i>Students are given sheets of paper in the form of "clouds" on which to write factors that are harmful to health. The "clouds" are then attached to the existing poster with the image of the sun (see exercise 2). Then the students share their impressions, emotions and conclusions that they have made themselves. Question</i>	Yes	No
Do you follow daily hygiene?		
Do you do morning exercises?		
Do you like to walk and not travel by public transport?		
Do you like to play sports in physical education classes?		
Do you visit a sports section or a club?		
Do you do manual labor?		
Do you eat fruits and vegetables every day?		
Do you have healthy sleep?		

III. Final part

1. Exercise "Return to expectations" (5 minutes)

The teacher reminds of the "golden grains" with the expectations of the training, which the students pasted on the top of the poster with the image of an hourglass at the beginning of the lesson. If expectations come true, these "grains of sand" should fall to the bottom of

the clock, if not - stay on top. Students consider their answer and then take turns going to the poster with the clock, removing the stickers, giving their answer, and attaching the "sand" to the top or bottom of the hourglass.

2. 2. Completion. Exercise - warming up "Wishes" (5 min.)

The students sit in a circle, after which the teacher offers one after the other, one by one, to exchange wishes. For example, one participant says to another, "I wish you all your dreams come true," and so on.

Tips for the facilitator

Teacher's result: "Take care of your health, strengthen it and increase it. Remember that health - your greatest asset, and it's up to you whether you will be able to maintain it for many years. "

Debriefing

Students prepare a healthy weekly menu and sports program to keep fit.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.britannica.com/topic/health>

Annex



GOOD HABITS ARE AT THE HEART OF A HEALTHY LIFESTYLE



PROTECT YOUR OWN HEALTH

- it is everyone's immediate responsibility, he has no right to pass it on to others.



HEALTH IS THE FIRST AND MOST IMPORTANT HUMAN NEED, WHICH DETERMINES HIS ABILITY TO WORK AND ENSURES THE HARMONIOUS DEVELOPMENT OF THE PERSONALITY.

THREE COMPONENTS OF HEALTH

- Physical health is the natural state of the body due to the normal functioning of all its organs and systems.
- Mental health depends on the state of the brain.
- Moral health is determined by those moral principles that are the basis of a person's social life, ie. life in a particular human society.

FUNDAMENTALS OF HEALTHY LIVING

Useful work



HEALTHY DIET



HEREDITY



OPTIMAL MOTOR MODE



TEMPERING



PERSONAL HYGIENE



COMMUNICATION WITH NATURE



Sustainable Development Goal 4

Quality Education

SDG 4 – Quality Education

Sustainable Development Goal 4 (SDG 4 or Global Goal 4) is about quality education and is among the 17 Sustainable Development Goals established by the United Nations in September 2015. The full title of SDG 4 is “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”.



The targets

SDG 4 has 10 targets and 12 indicators to measure progress toward targets.

Target 4.1: Free primary and secondary education

By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

Target 4.2: Equal access to quality pre-primary education

By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

Target 4.3: Equal access to affordable technical, vocational and higher education

By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

Target 4.4: Increase the number of people with relevant skills for financial success

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

Target 4.5: Eliminate all discrimination in education

By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including people with disabilities, indigenous people and children in vulnerable situation.

Target 4.6: Universal literacy and numeracy

By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

Target 4.7: Education for sustainable development and global citizenship

By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Target 4.A: Build and upgrade inclusive and safe schools

Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

Target 4.B: Expand higher education scholarships for developing countries

By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.

Target 4.C: Increase the supply of qualified teachers in developing countries

By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.



Why is it important?

Education is the key that will allow many other Sustainable Development Goals (SDGs) to be achieved. When people are able to get quality education they can break from the cycle of poverty.

Education helps to reduce inequality and reach gender equality. It also empowers people everywhere to live more healthy and sustainable lives. Education is also crucial in encouraging tolerance between people and contributes to more peaceful societies.

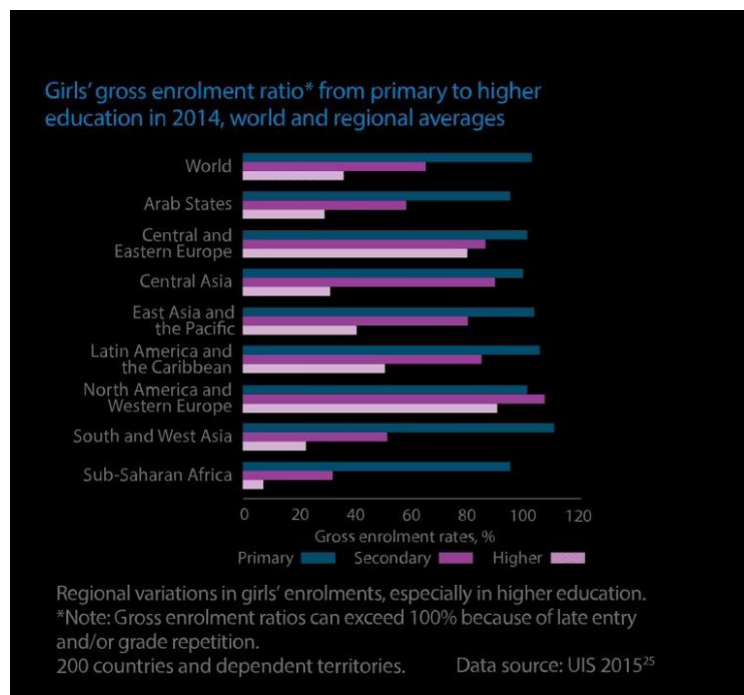


The Challenge

The United Nations Sustainable Development Goals report in 2019 highlighted three key areas of SDG 4 challenges:

- 1) Children and adolescents lack minimum proficiency in reading and mathematics;
- 2) More than half of the schools in Sub-Saharan Africa do not have access to basic drinking water facilities, internet and computers;
- 3) 27% more girls than boys of primary school age are not attending school.

Average percentages of students in primary, secondary and higher education



The Impact of COVID-19 on SDG 4: Quality Education for All

SDG 4 is meant to be achieved by 2030. However, the COVID-19 pandemic profoundly affected this path to development.

UNICEF estimates that 463 million children (around 31 percent of children globally) were unable to access remote learning. Most of these students – 3 out of 4 – were located in rural areas and/or experiencing poverty.

During the COVID-19 pandemic, the education of women and girls took an especially big hit. Disruptions faced during the pandemic will widen the pre-existing gender gap in education. Girls were more likely to carry a greater burden of domestic and caretaker relities throughout the pandemic, leaving them little time for schooling.



ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

BEFORE COVID-19

PROGRESS TOWARDS
INCLUSIVE AND EQUITABLE QUALITY
EDUCATION WAS **TOO SLOW**



OVER 200 MILLION CHILDREN WILL STILL BE OUT OF SCHOOL IN 2030

COVID-19 IMPLICATIONS



SCHOOL CLOSURES KEPT

90% OF ALL STUDENTS OUT OF SCHOOL
REVERSING YEARS OF PROGRESS ON EDUCATION

INEQUALITIES IN EDUCATION ARE EXACERBATED BY COVID-19

IN LOW-INCOME COUNTRIES,
CHILDREN'S SCHOOL COMPLETION RATE IS



79% IN RICHEST
20% OF HOUSEHOLDS



34% IN POOREST
20% OF HOUSEHOLDS

REMOTE LEARNING REMAINS
OUT OF REACH FOR
AT LEAST
500 MILLION STUDENTS



ONLY 65% OF PRIMARY SCHOOLS
HAVE BASIC HANDWASHING FACILITIES
CRITICAL FOR COVID-19 PREVENTION

Source: United Nations, The Sustainable Development Goals Report 2020

References:

Goal 4, Quality Education, UNDP. Retrieved 13 April 2017,

<https://www.undp.org/sustainable-development-goals#quality-education>

Education, Global Campaign for (2020). "SDG4's 10 targets", https://campaignforeducation.org/en/key-frameworks/sdg-4-and-targets?gclid=CjoKCQjwZtZH7BRDzARIsAGibK2Yh3ZtgA-ijVntolB34hIGCedrJynBNgMNVmkCFojBsn6mTgnCS5NJsaAkGEEALw_wcB /

3. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (2022), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=SDG_4_-_Quality_education

4. The Impact of COVID-19 on SDG 4: Quality Education for All (2022), <https://unesdoc.unesco.org/ark:/48223/pf0000253479>

<https://creativecommons.org/licenses/by-sa/3.0/igo/legalcode>

On these links you can find more info about SDG 4: Quality Education.

<https://sdgs.un.org/goals/goal4>

<https://www.un.org/development/desa/disabilities/envision2030-goal4.html>

<https://www.undp.org/sustainable-development-goals#quality-education>

<https://www.globalgoals.org/goals/4-quality-education/>

<https://www.jointsdgfund.org/sustainable-development-goals/goal-4-quality-education>



Developing the introduction

Overall Aim of Sustainable Development Goal 4 – Quality Education

Sustainable Development Goal 4 is the education goal that aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” SDG 4 is defined of 10 Targets and 11 Indicators. Below is the list of the Targets which specify the goals of SDG 4.

Target 4.1: Free primary and secondary education

Target 4.2: Equal access to quality pre-primary education

Target 4.3: Equal access to affordable technical, vocational, and higher education

Target 4.4: Increase the number of people with relevant skills for financial success

Target 4.5: Eliminate all discrimination in education

Target 4.6: Universal literacy and numeracy

Target 4.7: Education for sustainable development and global citizenship

Target 4.A: Build and upgrade inclusive and safe schools

Target 4.B: Expand higher education scholarships for developing countries

Target 4.C: Increase the supply of qualified teachers in developing countries

There are other SDGs with direct reference to education. Those SDGs are: SDG 1 (No poverty), SDG 3 (Good health and well-being) SDG 5 (Gender equality), SDG 10 (Reduced inequalities), SDG 8 (Decent work and economic growth), SDG 9 (Industry, innovation and infrastructure) and SDG 16 (Peace, justice and strong institutions). Achieving SDG 4 will help to achieve these goals as well.

Why is it important for educational community?

Education provides the means to transmit knowledge, values, and skills across generations, enabling societies to set the foundation for thriving in the future. Despite a number of actions undertaken at all levels, public awareness of the 2030 Agenda and the SDGs appear to remain still relatively modest, especially at the grassroots and community level. Awareness and communications strategies sometimes suffer from the lack of sustainable and sufficient institutional and financial resources. There is a need to step up awareness-raising activities in the next phase of implementation. Fostering sustainable and long-term behavior change with the younger generations including through integrating SDGs into education curricula, is important.

Education is the key that will allow many other Sustainable Development Goals to

be achieved. When people are able to get quality education they can break from the cycle of poverty. Education therefore helps to reduce inequalities and to reach gender equality. It also empowers people everywhere to live more healthy and sustainable lives. Education is also crucial to fostering tolerance between people and contributes to more peaceful societies.

Key dimensions of Sustainable Development 4 Quality Education

Education for all has always been an integral part of sustainable developing agenda. The World Summit on Sustainable Development in 2002 adopted the Johannesburg Plan of Implementation which in its Section X, reaffirmed both the Millennium Development Goal 2 in achieving universal primary education by 2015 and the goal of the Dakar Framework for Action on Education for All to eliminate gender disparity in primary and secondary education by 2005 and at all levels of education by 2015. The Johannesburg Plan of Implementation addressed the need to integrate sustainable development into formal education at all levels, as well as through informal and non-formal education opportunities. There is growing international recognition of Education for Sustainable Development as an integral element of quality education and a key enabler for sustainable development. Education for Sustainable Development is closely tied into the international discussions on sustainable development, which have grown in scale and importance since, Our Common Future appeared in 1987, providing the first widely-used definition of sustainable development as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." In targets for quality education that means by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university, increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development, by 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.

The interplay between Sustainable Development Goal 4 Quality Education and the acquisition of 21st century skills

21st Century skills are 12 abilities that today's students need to succeed in their careers during the Information Age. These skills are intended to help students keep up with the lightning pace of today's modern markets.

The twelve 21st Century skills are:

- Critical thinking
- Creativity
- Collaboration
- Communication
- Information literacy
- Media literacy
- Technology literacy
- Flexibility
- Leadership
- Initiative
- Productivity
- Social skills

Each skill is unique in how it helps students, but they all have one quality in common and are essential in the age of the Internet.

Each 21st Century skill is broken into one of three categories:

Learning skills

Literacy skills

Life skills

Learning skills (the four C's) teaches students about the mental processes required to adapt and improve upon a modern work environment.

Literacy skills (IMT) focuses on how students can discern facts, publishing outlets, and the technology behind them. There's a strong focus on determining trustworthy sources and factual information to separate it from the misinformation that floods the Internet.

Life skills (FLIPS) take a look at intangible elements of a student's everyday life. These intangibles focus on both personal and professional qualities.

Altogether, these categories cover all 12 21st Century skills that contribute to a student's future career.

¹

²

¹ <https://www.aeseducation.com/blog/what-are-21st-century-skills>

² <https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-4.pdf>

Activity 1

Learning Tool Code	Title
SDG4-SDGfP	Quality education
Objectives	
<ul style="list-style-type: none"> ● students understands and explains the concept of education ● students understands how education is related to sustainable development ● students applies critical thinking ● students develops a positive attitude towards learning new content (Sustainable Development) 	
Activity details	
<ul style="list-style-type: none"> ● number of students: 10 – 20 ● group work, pair work and individual work of students ● duration: 90 minutes 	
Instructions	
<p>Activity 1. (15 min)</p> <p>The teacher asks questions and encourages students to discussion:</p> <ul style="list-style-type: none"> - do all children in the world have equal conditions for education? - what problems do children who live far from school have? - do boys and girls have the same educational conditions in all countries? <p>The teacher plays a short video showing what is meant by quality education and what we can do:</p> <p>https://www.youtube.com/watch?v=tJ8CMUjclC</p> <p>Many countries made great progress in providing quality education for their primary school children, in developing countries it has reached 91%. But there are still 57 million primary age children remaining out of school, mainly in Sub-Saharan Africa or in countries with ongoing conflicts. Poor education can be due to lack of trained teachers, poor conditions of schools without electricity and running water, dangerous commutes to school or a family's lack of money to afford children's education.</p>	

Activity 2. (20 min)

The teacher plays a video in which quality education is divided into seven targets which are expected outcomes and three targets which are means of achieving these targets. For each of the outcomes, it would be good to stop the video and comment with the students on the outcome:

<https://youtu.be/V24JzUPlR44>

Seven Outcome Targets**4.1 Universal primary and secondary education**

Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

4.2 Early childhood development and universal pre-primary education

Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

4.3 Equal access to technical/vocational and higher education

Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

4.4 Relevant skills for decent work

Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

4.5 Gender equality and inclusion

Eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations

4.6 Universal youth literacy

Ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

4.7 Education for sustainable development and global citizenship

Ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development

Three means of implementation

4.a Effective learning environments

Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

4.b Scholarships

Substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programs, in developed countries and other developing countries

4.c Teachers and educators

Substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States

Activity 3. (20 min)

Students should draw the outline of a person on a blank sheet of paper and write within the outline several benefits they have from their education.

Students can read what is written.

**Activity 4. (30 min)**

Students explore the answers to the following questions using internet:

1. In which countries do girls not go to school (list a few)?
2. In which countries is education funded by the state (list a few)?
3. In which countries are there not enough schools (list a few)?

Tips for the facilitator

- the teacher asks questions and tries to involve as many students as possible for discussion
- the teacher is helping, leading and guiding students when they need help

Debriefing

Students can create a family tree in which they will write next to the names of their ancestors what level of education they have reached, and in this way they will become aware of how important education was to their ancestors.

Follow-up/Inspiration for the future

Information on the school website, social media and local media.

References/Further reading

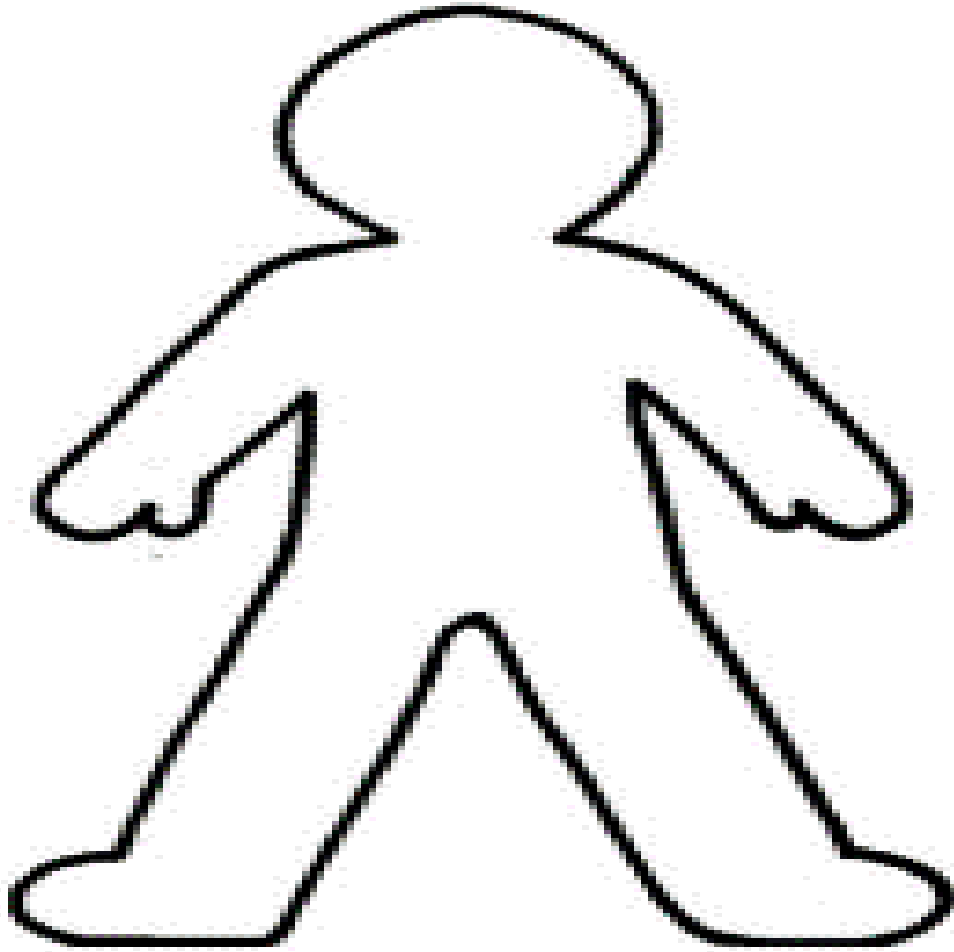
<https://www.un.org/sustainabledevelopment/sdgbookclub-4archive/>

<https://www.sdg4education2030.org/the-goal>

<https://www.youtube.com/watch?v=tJ8CMUljcLc>

<https://youtu.be/V24JzUPlR44>

Annex



Activity 2

Learning Tool Code	Title
SDG4-SDGfP	Quality education Success in education
Objectives	
<ul style="list-style-type: none"> - Students recognize the importance of quality education for a better future; - Students understand the conditions and the learning process; - Students understand learning as a result of active participation, not just as achievement; - Students are able to confidently express their knowledge, opportunities and needs; - Students can identify their potentials and set goals to achieve; - They know how to use different sources of information to enrich their knowledge; - Can participate in the decision-making process, important for school life; Claim values that are in line with SDG4; - Respond positively towards achieving SDG4; - They know the criteria for success in learning; - They realize that personal success leads to their quality education. 	
Activity details	
<p>Materials - see annex</p> <p>Duration - 3 h 30 min</p> <p>Number of group -3-4 groups, 4 students each</p> <p>(5th grade, age 10-11 years)</p>	
Instructions	
<p>Lesson one (1h 30 min)</p> <p>The teacher asks the students to do brainstorming to express what the word "success" reminds them of. Then, they encourage them to think and give examples when and in what field they achieved success.</p> <p>Students are divided into 4 groups; two groups discuss success; two groups discuss failure through questions given by the teacher in a form of a worksheet (see annex):</p>	

When I achieve high success in school, do I look for sources of information for even better-quality knowledge, and most often which ones?

When I fail at school, do I share it with the people around me and look for a way to regain lost knowledge?

Students work in groups, answer questions, and then present the answers, discuss, and debate. It is concluded that success always makes us happy, fulfilled, satisfied, with higher self-confidence and motivation to constantly achieve high results, in order for our better education.

Lesson two (2 hours)

Activity 1:

The students are divided into groups and each group draws a piece of paper cut from the worksheet for students "Proverbs about success and failure" on which is written a saying about success. Each group should discuss their proverb, and then have one student from the group read it and briefly say what their group thinks about the proverb. (See annex)

The discussion is about how the given proverbs look at the success / failure of quality education, what success depends on, how to achieve it.

Students come to the common conclusion that success is the result of real effort and commitment, and failure is presented as an integral part of life, which should not discourage us and something from which we can learn a lot in order to have a better education.

Activity 2:

The students are divided into pairs and each pair draws a card cut from the student worksheet "Question Cards". (See annex)

There are two questions on the card and each pair should answer one of the questions and read them. The following is a discussion with questions:

What can be considered as success?

How does success affect the quality of our knowledge and our education in general?

Students come to the conclusion:

-Success is also considered when we have managed to exceed our internal criteria for success;

-When we know that we have invested the maximum of ourselves to accomplish the tasks

- The achieved successes in education make our life better.

Tips for the facilitator

1) The teacher asks questions about achieving high success in school; the impact and importance of success in education

2) The teacher encourages discussion about the impact and importance of success in further education.

3) The teacher invites the students to share the results of the answers on the cards in class.

Debriefing

Students design posters about the importance of education and post them on a school board. Worksheets can be adapted to students' abilities, age and experience. Students can present their answers and conclusions in the form of an essay, a book, a presentation.

Follow-up/Inspiration for the future

Information on social media, school website.

The students can post the designed posters around the school to raise awareness on the topic.

References/Further reading

<https://education.seattlepi.com/benefits-not-quitting-school-1332.html>

<https://list25.com/25-reasons-you-should-stay-in-school/>

Annex

Lesson two - Activity one

Proverbs about success and failure

PROVERBS FOR SUCCESS AND FAILURE

1. Courage is when you know you may not succeed, but you keep trying.

2. The only failure in life is when you fail to try.

3. I do not know anyone who managed to reach the top without much work.
It may not always take you to the top, but it will certainly bring you closer to it.

4. Man learns while he is alive.

5. He who works makes mistakes.

6. It is not scary to make mistakes.
It is scary not to learn from mistakes.

7. No one was born educated.

8. Success is pure luck.
Anyone who has failed will tell you that.

Lesson two - Activity two

Question Cards

QUESTIONS CARDS

If you would get a medal for bravery, what would you get it for?

When were you proud of yourself for being able to help someone?

Have you ever said NO to others and been proud of it?

What is your greatest physical achievement?

How can it be noticed that you are a creative person?

When did you help two people who had an argument calm down?

When have you felt happy for the success of your loved one as if it were your own?

When were you satisfied with what you worked on according to the plan you had prepared?

What is the first success you remember that you achieved when you were little?

Describe one thing you consider to be a success you have achieved in school.

What are you especially proud of about yourself as a member of your family?

Describe something you consider a success that you have achieved outside of school.

What is your latest success?

What is your smallest but very sweet success?

Who is your idol and in what are you at least a little like him / her?

When was the last time someone helped you succeed?

From your personal experience, what advice would you give to a first grader on achieving learning success?

List at least three small successes you have achieved since waking up today?

How many successes, and how many failures do you have on average per day?

How long did it take you to get over your last failure and try again?

Sustainable Development Goal 5 (SDG5)

Gender equality and empower all women and girls



Gender equality

As the UN explains: "Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. The official wording of SDG 5 is "Achieve gender equality and empower all women and girls". The targets and indicators for SDG 5 are extensive and provide equal opportunity for females.

Goals

Target 5.1: End discrimination against women and girls

Target 5.2: End all violence against and exploitation of women and girls

Target 5.3: Eliminate forced marriages and genital mutilation

Target 5.4: Value unpaid care and promote shared domestic responsibilities

Target 5.5: Ensure full participation in leadership and decision-making

Target 5.6: Universal access to reproductive rights and health

Target 5.A: Equal rights to economic resources, property ownership and financial services

Target 5.B: Promote empowerment of women through technology

Target 5.C: Adopt and strengthen policies and enforceable legislation for gender equality

Why is it important

To achieve gender equality and empower all women and girls.

Women and girls represent half of the world's population and therefore also half of its potential. But, today gender inequality persists everywhere and stagnates social progress.

Women continue to be underrepresented at all levels of political leadership.

Advancing gender equality is critical to all areas of a healthy society, from reducing poverty to promoting the health, education, protection and the wellbeing of girls and boys.

Across the globe, women and girls perform a disproportionate share of unpaid domestic work.

Inequalities faced by girls can begin right at birth and follow them all their lives. In some countries, girls are deprived of access to health care or proper nutrition, leading to a higher mortality rate.

Women's and girls' empowerment is essential to expand economic growth and promote social

development. The full participation of women in labour forces would add percentage points to most national growth rates - double digits in many cases.

Challenge

Worldwide, 35 per cent of women between 15-49 years of age have experienced physical and/or sexual intimate partner violence or non-partner sexual violence. 1 in 3 girls aged 15-19 have experienced some form of female genital mutilation/cutting in the 30 countries in Africa and the Middle East, where the harmful practice is most common with a high risk of prolonged bleeding, infection (including HIV), childbirth complications, infertility and death.

Progress

International commitments to advance gender equality have brought about improvements in some areas: child marriage and

female genital mutilation (FGM) have declined in recent years, and women's representation in the political arena is higher than ever before. But the promise of a world in which every woman and girl enjoys full gender equality, and where all legal, social and economic barriers to their empowerment have been removed, remains unfulfilled.

There has been progress over the last decades: More girls are going to school, fewer girls are forced into early marriage, more women are serving in parliament and positions of leadership, and laws are being reformed to advance gender equality.

How to solve the problem?

If you are a girl, you can stay in school, help empower your female classmates to do the same and fight for your right to access sexual and reproductive health services. If you are a woman, you can address unconscious biases and implicit associations that form an unintended and often an invisible barrier to equal opportunity.

If you are a man or a boy, you can work alongside women and girls to achieve gender equality and embrace healthy, respectful relationships.

Connection with other goals

- poverty reduction and hunger eradication: employing women will reduce their poverty and increase financial independence (Goal 1 and Goal 2)
- quality education for girls (Goal 4) will give them the opportunity to continue their education and be present in the labor market, which will affect economic growth (Goal 8), and in all legal and political institutions (Goal 16) in which they can advocate for Gender Equality and Inequality Reduction (Goal 10)
- have quality living conditions (Goal 6) and health care (Goal 3)



5 GENDER
EQUALITY



GENDER EQUALITY: WHY IT MATTERS

What's the goal here?

To achieve gender equality and empower all women and girls.

Why?

Women and girls represent half of the world's population and therefore also half of its potential. But, today gender inequality persists everywhere and stagnates social progress. Women continue to be underrepresented at all levels of political leadership. Across the globe, women and girls perform

a disproportionate share of unpaid domestic work.

Inequalities faced by girls can begin right at birth and follow them all their lives. In some countries, girls are deprived of access to health care or proper nutrition, leading to a higher mortality rate.

How much progress have we made?

International commitments to advance gender equality have brought about improvements in some areas: child marriage and

In 2019,
women
only held
28 per cent
of managerial
positions
worldwide

female genital mutilation (FGM) have declined in recent years, and women's representation in the political arena is higher than ever before. But the promise of a world in which every woman and girl enjoys full gender equality, and where all legal, social and economic barriers to their empowerment have been removed, remains unfulfilled. In fact, that goal is probably even more distant than before, since women and girls are being hit hard by the COVID-19 pandemic.

How does gender inequality affect women?

Disadvantages in education translate into lack of access to skills and limited opportunities in the labour market.

Women's and girls' empowerment is essential to expand economic growth and promote social development. The full participation of women in labour forces would add percentage points to most national growth rates—double digits in many cases.

Are there any other gender-related challenges?

Yes. Worldwide, 35 per cent of women between 15-49 years of age have

experienced physical and/or sexual intimate partner violence or non-partner sexual violence. 1 in 3 girls aged 15-19 have experienced some form of female genital mutilation/cutting in the 30 countries in Africa and the Middle East, where the harmful practice is most common with a high risk of prolonged bleeding, infection (including HIV), childbirth complications, infertility and death.

The COVID-19 lockdown further caused domestic violence to increase in many countries, showing the critical importance of social protection for women and girls.

The **Spotlight Initiative**, an EU/UN partnership, is a global, multi-year initiative focused on eliminating all forms of violence against women and girls (VAWG).

But, why should gender equality matter to me?

Regardless of where you live in, gender equality is a fundamental human right. Advancing gender equality is critical to all areas of a healthy society, from reducing poverty to promoting the health, education, protection and the

well-being of girls and boys.

What can we do to fix these issues?

If you are a girl, you can stay in school, help empower your female classmates to do the same and fight for your right to access sexual and reproductive health services. If you are a woman, you can address unconscious biases and implicit associations that form an unintended and often an invisible barrier to equal opportunity.

If you are a man or a boy, you can work alongside women and girls to achieve gender equality and embrace healthy, respectful relationships.

You can fund education campaigns to curb cultural practices like female genital mutilation and change harmful laws that limit the rights of women and girls and prevent them from achieving their full potential.

To find out more about Goal #5 and other Sustainable Development Goals, visit:

<http://www.un.org/sustainabledevelopment>



SUSTAINABLE DEVELOPMENT GOALS

5 GENDER EQUALITY

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

BEFORE COVID-19

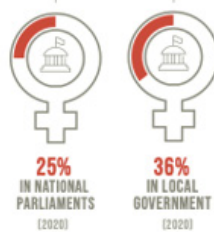
DESPITE IMPROVEMENTS, FULL GENDER EQUALITY REMAINS UNREACHED



FEWER GIRLS ARE FORCED INTO EARLY MARRIAGE
 MORE WOMEN ARE IN LEADERSHIP ROLES

WOMEN MUST BE REPRESENTED FAIRLY IN PANDEMIC-RELATED LEADERSHIP ROLES

WOMEN REPRESENT



COVID-19 IMPLICATIONS

LOCKDOWNS ARE INCREASING THE RISK OF VIOLENCE AGAINST WOMEN AND GIRLS



CASES OF DOMESTIC VIOLENCE HAVE INCREASED BY 30% IN SOME COUNTRIES

WOMEN ARE ON THE FRONT LINES OF FIGHTING THE CORONAVIRUS



WOMEN ACCOUNT FOR 70% OF HEALTH AND SOCIAL WORKERS



WOMEN BEAR ADDITIONAL HOUSEHOLD BURDENS DURING THE PANDEMIC

WOMEN ALREADY SPEND ABOUT THREE TIMES AS MANY HOURS IN UNPAID DOMESTIC AND CARE WORK AS MEN



ACCESS MORE DATA AND INFORMATION ON THE INDICATORS AT [HTTPS://UNSTATS.UN.ORG/SDGS/REPORT/2020/](https://unstats.un.org/sdgs/report/2020/)





Developing the introduction

Overall Aim of Sustainable Development Goal 5 – Gender Equality

As the UN explains: *"Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. The official wording of SDG 5 is **"Achieve gender equality and empower all women and girls"**. The targets and indicators for SDG 5 are extensive and provide equal opportunity for females. SDG 5 has nine targets and 14 indicators.*

Target 5.1: End discrimination against women and girls

Target 5.2: End all violence against and exploitation of women and girls

Target 5.3: Eliminate forced marriages and genital mutilation

Target 5.4: Value unpaid care and promote shared domestic responsibilities

Target 5.5: Ensure full participation in leadership and decision-making

Target 5.6: Universal access to reproductive rights and health

Target 5.A: Equal rights to economic resources, property ownership and financial services

Target 5.B: Promote empowerment of women through technology

Target 5.C: Adopt and strengthen policies and enforceable legislation for gender equality

There has been progress over the last decades: More girls are going to school, fewer girls are forced into early marriage, more women are serving in parliament and positions of leadership, and laws are being reformed to advance gender equality. Despite these gains, many challenges remain: discriminatory laws and social norms remain pervasive, women continue to be underrepresented at all levels of political leadership, and 1 in 5 women and girls between the ages of 15 and 49 report experiencing physical or sexual violence by an intimate partner within a 12-month period.

The effects of the COVID-19 pandemic could reverse the limited progress that has been made on gender equality and women's rights. The coronavirus outbreak exacerbates existing inequalities for women and girls across every sphere – from health and the economy to security and social protection. The pandemic has also led to a steep increase in violence against women and girls. With lockdown measures in place, many women are trapped at home with their abusers, struggling to access

services that are suffering from cuts and restrictions. Emerging data shows that, since the outbreak of the pandemic, violence against women and girls – and particularly domestic violence – has intensified.⁴

Why is it important for educational community?

The SDGs are an ideal filter through which to expand and enrich the lesson plans. Educators can boost classroom engagement by demonstrating the real-world impact of the subjects their students are learning. The SDGs are useful classroom resources that adds depth and context to lesson plans. They are closely aligned with today's curriculum and broach a remarkable range of traditional academic subjects such as geography, biology, social sciences, politics, economics, and more.

Educators should see the SDGs as an opportunity to add extra depth to their lesson plans, rather than being something that requires work to link to the curriculum. Just like many of the other Sustainable Development Goals, gender equality is interconnected with the other goals – everyone's actions and support make the difference in achieving gender equality. Increased education on harmful practices, cultural norms and forms of marginalization will us to better understand the issues women and girls face, the rights they have and the responsibility of our government and institutions to protect them. Additionally, for society at large, learning how to dismantle sexist, violent and discriminatory language, attitudes and behaviours will contribute to changing our social and cultural understandings of discrimination and gender.

Key dimensions of Sustainable Development 5 Gender Equality

Since its creation 70 years ago, the UN has achieved important results in advancing gender equality, from the establishment of the Commission on the Status of Women - the main global intergovernmental body exclusively dedicated to the promotion of gender equality and the empowerment of women - through the adoption of various landmark agreements such as the Convention on the Elimination of All Forms of Discrimination against Women and the Beijing Declaration and Platform for Action. Gender inequalities are still deep-rooted in every society. Women suffer from lack of access to decent work and face occupational segregation and gender wage gaps. In many situations, they are denied access to basic education and

⁴<https://unric.org/en/sdg-5/#:~:text=Goal%205%3A%20Achieve%20gender%20equality,peaceful%2C%20prosperous%20and%20sustainable%20world.>

health care and are victims of violence and discrimination. They are under-represented in political and economic decision-making processes. With the aim of better addressing these challenges and to identify a single recognized driver to lead and coordinate UN activities on gender equality issues, UN Women was established in 2010.

UN Women works for the elimination of discrimination against women and girls, empowerment of women, and achievement of equality between women and men as partners and beneficiaries of development, human rights, humanitarian action and peace and security. The main targets to achieve are to end all forms of discrimination against all women and girls everywhere, eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation, eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation, recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate, ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life, ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences, undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws, enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women, adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.²

² <https://sdgs.un.org/>

The interplay between Sustainable Development Goal 5 Gender Equality and the acquisition of 21st century skills

Current and future citizens face new challenges, such as increasing complexity and uncertainty; growing individualization and social diversity; expanding economic and cultural uniformity; the degradation of the ecosystem services on which they depend and mounting vulnerability and exposure to natural and technological hazards. Addressing complex challenges and current and future uncertainty are at the heart of Agenda 2030 and are therefore the focus of the 17 Sustainable Development Goals originally conceived by the UN, with particular emphasis on SDG4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"

SDGs address critical global challenges, and to overcome them, everyone (youth and adults, men and women, citizens and professionals in all fields) requires key competences that enable them to engage constructively and responsibly with today's world and to actively participate in the necessary transformations. The aim is to promote comprehensive Education for Sustainable Development (ESD) and Education for Global Citizenship (EGC) programs through 21st century skills, focused on providing sustainability education for future generations of professionals. The creation of knowledge, as well as its acquisition, validation, and use, must be common to all people as part of a collective social endeavor.

Activity 1

Learning Tool Code	Title
SDG5-SDGfP	Gender equality
Objectives	
<ul style="list-style-type: none"> - students understand the importance of gender equality and the importance of reducing stereotypes in society - students recognize forms of gender inequality - students analyze the possible causes of gender inequality in society and possible solutions to the problem of inequality - students analyze the consequences of gender inequality on society and the position of women in society - students suggest ways to address gender inequality in society - working in groups and developing teamwork - developing critical thinking and problem solving - developing a positive attitude towards gender equality 	
Activity details	
<ul style="list-style-type: none"> - number of students: 10 - 15 (7th or 8th grade; 13 - 15 years) - duration: 90 minutes 	
Instructions	
<p>1. Introductory part / motivation</p> <ul style="list-style-type: none"> - duration: 10 minutes <p>On the board are cards with occupations (occupations are written in male and female as an example): soldier, kindergarten teacher, school teacher, nurse, tailor, hairdresser, car mechanic, bus driver, house painter, football referee, miner, pilot, captain (ship), stewardess, midwife, electrician.</p> <p>Students should classify occupations into male and female occupations. The following is a discussion with students.</p> <p><i>Are these really male or female occupations?</i></p> <p><i>Can these occupations can be done equally by men and women?</i></p> <p><i>Why does this division exists in society?</i></p> <p><i>What can be done to make such stereotypes disappear in society.</i></p>	
<p>2. Activities</p> <p>Activity 1 (duration: 20 minutes)</p> <p>Worksheets will be distributed to students.</p> <p>The teacher gives instructions. After watching the film, students will solve the first task on worksheet. They need to write the meaning of gender equality and define the concept of gender equality</p>	

Watching a short film about understanding gender equality.

<https://www.youtube.com/watch?v=-hcokZh6CnM>

Have they ever felt that boys had more rights because they are boys?

Are the jobs in their families equally divided?

reading the meaning of the concept of gender equality and discussion.

Activity 2 (duration: 45 minutes)

Divide students into two groups.

They will watch two short films together, discuss what they have seen and solve the tasks on the worksheet. After each film watched, students solve tasks together.

Gender Equality

<https://www.youtube.com/watch?v=j85fGU3PeeY>

Tasks:

- How does schooling affect the economy and GDP growth?
- What differences did boys and girls find in the research? Girls read better than boys, 60% of graduates were women, in some countries there are more women in higher education than men.
- Which professions do women choose and which professions do men choose? Women choose occupations in education, social sciences, medicine, and men choose occupations in construction, engineering and crafts.
- What is the difference in the evaluation of work between men and women? Women are paid 16% less.
- What is the position of women in the management boards of companies? There are 9 men per woman. In Norway, 40% of women are on management boards, in Sweden, France and Finland 20%. In Germany, Japan and the Netherlands, only 5% of women are on management boards.

Equality in education

<https://www.youtube.com/watch?v=2Oexo0jpstk>

Tasks:

- What differences did boys and girls show in reading, math and science literacy? The weakest in literacy were boys. Girls have difficulty with science skills, boys write less homework than girls, read less, play video games more. Girls have less confidence in math.
- How to strengthen their skills in the areas where they are weakest? Boys' reading skills can be developed by giving them different sources of reading (books, magazines, comics), perhaps something related to their areas of interest (video games). Girls need to build self-confidence to strengthen their math skills.
- What does an equal relationship in the education of boys and girls bring? Welfare of society, economic growth, gender equality.

3. Completion

Activity 3

- duration: 10 minutes

Drawing conclusions.

He will use the conclusions to make posters or write a problem article.

Activity 4

- duration: 5 minutes

Game: It is the student's task to find ways in the game to reduce gender inequality.

<https://wordwall.net/hr/resource/55379072>

Activity 5 (after the workshop)

Development of a digital poster on gender equality (Canva).

Writing a problem article on gender equality.

Tips for the facilitator

The teacher should prepare worksheets and occupations cards.

Prepare the projector and computer for watching short movies.

The teacher asks questions to the students and leads the discussion.

The teacher gives instructions for work.

The teacher helps students come to a solution to problems and conclusions.

Debriefing

Students can create a digital poster on gender equality in the Canva digital tool.

Students can write a problem article on gender equality.

Follow-up/Inspiration for the future

Information on the school website, social media and local media.

References/Further reading

<https://www.un.org/sustainabledevelopment/gender-equality/>

https://www.un.org/sustainabledevelopment/wp-content/uploads/2016/08/5_Why-It-Matters-2020.pdf

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infographic_05.pdf

<https://www.youtube.com/watch?v=-hc0kZh6CnM>

<https://www.youtube.com/watch?v=j85fGU3PeeY>

<https://www.youtube.com/watch?v=2Oexo0jpstk>

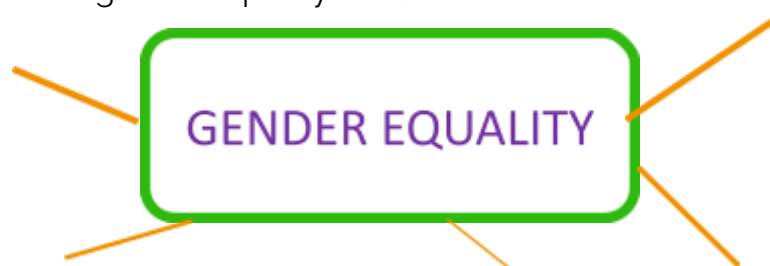
<https://wordwall.net/hr/resource/55379072>

downloaded: October, 2021.

Annex

WORKSHEET

1. What would gender equality mean? Write down the meanings.



Gender Equality

2. How does schooling affect the economy and increase GDP?

3. What differences did boys and girls find in the research?

4. Which occupations are chosen by women and which occupations are chosen by men?

5. What is the difference in the evaluation of work between men and women?

6. What is the position of women on company boards?

Equality in education

7. What differences between boys and girls have been shown in reading, math, and science literacy?

8. How to strengthen the skills of boys and girls in the areas where they are weakest?

9. What does an equal relationship bring in the education of boys and girls?

10. Write a conclusion. What can be done to ensure that boys and girls have equal education and that gender inequality disappears?

male
occupations

female
occupations

school
teacher

kindergarten
teacher

soldier

stewardess

bus driver

captain
(ship)

tailor

nurse

miner

pilot

electrician

midwife

car mechanic

house
painter

hairdresser

football referee

Activity 2

Learning Tool Code	Title
SDG5-SDGfP	Gender Equality
Objectives	
<ul style="list-style-type: none"> - Students successfully deal with issues related to gender aspects; - Students understand the freedom from discrimination; - Achieving gender equality and strengthening all women and girls; - Equal access for all boys and girls to quality education; - To eliminate gender differences in education; - To understand that the roles and responsibilities of women / girls and men / boys defined in our families have equal opportunities and benefits; - To perceive gender stereotypes; - Giving equal treatment to both girls and boys, for access to resources and opportunities; - Ability to identify problems arising from gender inequality and discrimination; - Undertaking activities to prevent gender bias and discrimination in order to ensure gender equality; - To respect the values and human rights, for concepts such as: inclusion, cooperation, cultural diversity; - Students to express concepts through drawings, writing texts or dramatizing texts; - To understand the importance of gender equality in exercising the right to education of all; - Students think critically; - Students work goal-directed; - Claim values that are in line with SDG5; - Respond positively towards achieving SDG5; 	
Activity details	
<p>Materials - see annex</p> <p>Duration – 3 h 30 min</p> <p>Number of groups –3-4 groups, 4 students each (5th grade, age 10-11 years)</p>	

Instructions

Lesson one (1 h 30 min.)

The teacher asks the students to think of what chores family members do at home. The teacher places pictures, from which they should express whether and how they do those activities at home (see annex). The teacher asks the students to express what the word "gender equality" reminds them of.

They then encourage them to think of joint school events for boys and girls.

The students are divided into 4 mixed groups. Each group has the task to present the activities of women/girls and men/boys through short text and drawings. They should present activities at home, the garden, school, and schoolyard yard. The students should emphasize whether the activities can be performed by everyone.

Students work in groups, then present the answers, discuss, and debate. It is concluded that women/girls and men/boys can equally achieve activities, regardless of gender, in male and female affairs.

Lesson two (2 hours)

Activity 1:

Students are divided into groups of 5 students and each and are given the task of analysing the characters in the textbooks for mother language, mathematics, and society.

For easier analysis and identification, they should answer the following questions:

How often are male and female characters portrayed? Example:

1. Does the math textbook include only pictures or names of boys?
2. How are male and female characters portrayed? For example: Are only girls shown doing housework?
3. How are roles and relationships between men and women portrayed? For example: Does the mother always tell the children what to do? Does the father always discipline the children?
4. What adjectives are used to describe male and female characters? For example: Are women called strong? Or, are men called caring?

Each group should discuss their activity, and then a student from the group should read it and briefly say what their group thinks.

The discussion is that textbooks can either encourage or hinder gender equality and we can recognize that.

Activity 2:

The teacher instructs the students to clean the school yard. Lists the activities that the boys and girls will do together.

Discussion and conclusion after the activity for the success of the action, without division of male and female activities.

Tips for the facilitator

- 1) The teacher asks questions about the gender-equal activities of the students in the home;
- 2) The teacher encourages discussion about the impact and importance of mutual assistance and gender equality;
- 3) The teacher invites the students to share the results of the answers and drawings in class;

Debriefing

Worksheets can be adapted to students' abilities, age, and experience. Students can present their answers and conclusions in the form of an essay, photo album of the action, presentation.

Follow-up/Inspiration for the future

Students design posters on the importance of gender equality and post them on a school board. The posters can be digitalized and posted on school's website or social media profiles.

References/Further reading

Gender Responsive Pedagogy, A Toolkit for Teachers and Schools, 2nd Edition, FAWE Forum for African Women Educationalists, 2018 Gender in Education Network in Asia-Pacific (GENIA) Toolkit, UNESCO 2019

Annex

Lesson one

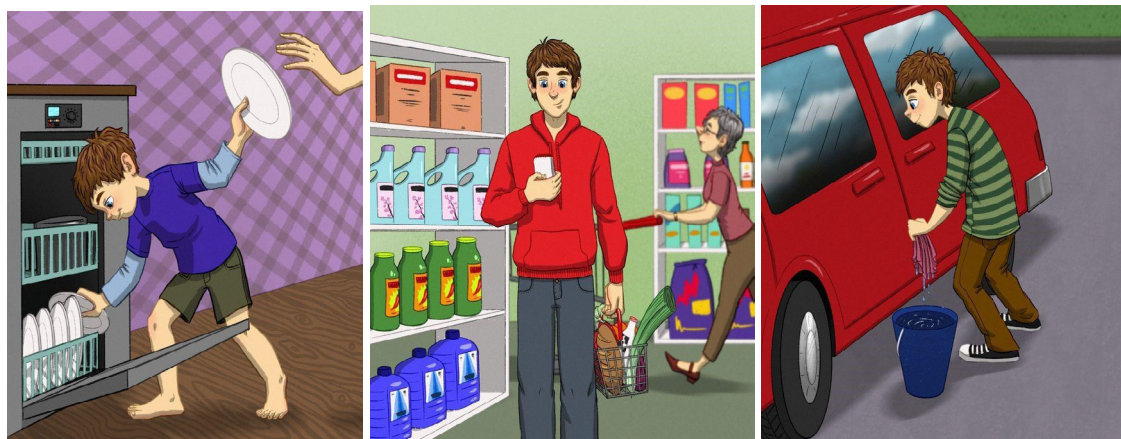
Worksheet

Student worksheet

Looking at the following pictures, express yourself if and how you do those activities in your family.

Then think and answer the question:

Is an equal division of labor in the home a benefit to having more time for the whole family to socialize?



Goal # 6 - Clean water and sanitation. Why do they matter?



SDG 6

Goal 6: Ensure the availability and sustainable management of water and sanitation for all, is one of the 17 Sustainable Development Goals set by the UN in 2015. The official wording is: "Ensure a healthy life and promote prosperity for all ages The goals cover and focus on various aspects of sustainable governance of water resources.



6.1 Ensuring by 2030 universal and equal access for all to safe drinking water at an affordable price.

6.2 Ensure, by 2030, access to appropriate sanitation and hygiene facilities for all and eliminate the practice of outdoor defecation, paying special attention to the needs of women and girls and vulnerable people.

6.3 Improving water quality by 2030 by reducing pollution, eliminating waste disposal and minimizing the release of hazardous chemicals and materials; halving the share of untreated wastewater and significantly increasing the recycling and safe reuse of water worldwide.



The Targets



6.4 Significantly increase by 2030 the efficiency of water use in all sectors and areas of activity and ensure sustainable water abstraction and access to fresh water in order to address water scarcity and significantly reduce the number of people suffering from water scarcity.

6.5 Implement, by 2030, integrated water resources management at all levels, including through cross-border cooperation where appropriate.

6.6 Conservation and restoration by 2020 of water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

6.a Expand by 2030 international cooperation and support to developing countries for capacity building on water and sanitation activities and programs, including water collection, desalination, water efficiency, wastewater treatment, recycling technologies and reuse.

6.b Support and enhance the involvement of local communities in improving water and sanitation management.

Why is it important?

Clean and accessible water is an essential part of the world we want to live in. There is enough fresh water on the planet to achieve this. But due to a poor economy or poor infrastructure, millions of people die each year, most of them children, from diseases related to water shortages, sanitation and hygiene.



What is the purpose? Ensure access to safe water sources and sanitation for all.

Why? Access to water, sanitation and hygiene is a human right, although billions of people still face daily challenges, accessing the most basic of them. About 1.8 billion people worldwide use a polluted source of drinking water. About 2.4 billion people do not have access to basic sanitation services, such as toilets. Water scarcity affects more than 40% of the world's population and is expected to increase. More than 80% of human wastewater is discharged into rivers or seas, leading to pollution.

What are the consequences of this? Contaminated water and sanitation-related diseases remain among the leading causes of death in children under 5; More than 800 children die every day from diseases related to poor hygiene. Adequate water and sanitation are essential to achieving the goals of sustainable development, including good health and gender equality. Through sustainable water management, we are able to better manage our food and energy production

and contribute to decent work and economic growth. In addition, we can protect our aquatic ecosystems, their biodiversity and take action on climate change.

What would it cost to fix the problem? A study by the World Bank, UNICEF and the World Health Organization predicts that the expansion of basic water and sanitation services will cost \$ 28.4 billion a year from 2015 to 2030, or 0.10 percent of the world's product from 140 countries. .

What would it cost if we didn't fix the problem? The costs are huge - both for the people and for the economy. Worldwide, more than 2 million people die from diarrhea. Poor hygiene and dangerous water are the cause of nearly 90% of these deaths and mostly affect children. The economic impact of not investing in water and sanitation costs 4.3% of GDP in sub-Saharan Africa.

What can we do? Civil society organizations must work and hold governments accountable, invest in water research and development, and promote the involvement of women and youth in water management.

In Bulgaria, nearly 24% of children under 6 have no bathroom or shower in their homes, according to Eurostat data for 2014. The same percentage for EU countries is 2.4%.

EU cohesion policy has for many years strongly supported Member States' efforts to develop and improve infrastructures, such as access to drinking water and wastewater services. For example, since 2007, more than 2.6 million people in nine different Member States have been provided with improved drinking water supplies thanks to EU financial support; another 5.7 million people, living in 14 different Member States have been associated with improved wastewater treatment. Over the last seven years (2007-2013), EU financial support for investment in drinking water supply and construction projects and infrastructure for wastewater has amounted to almost € 22 billion.

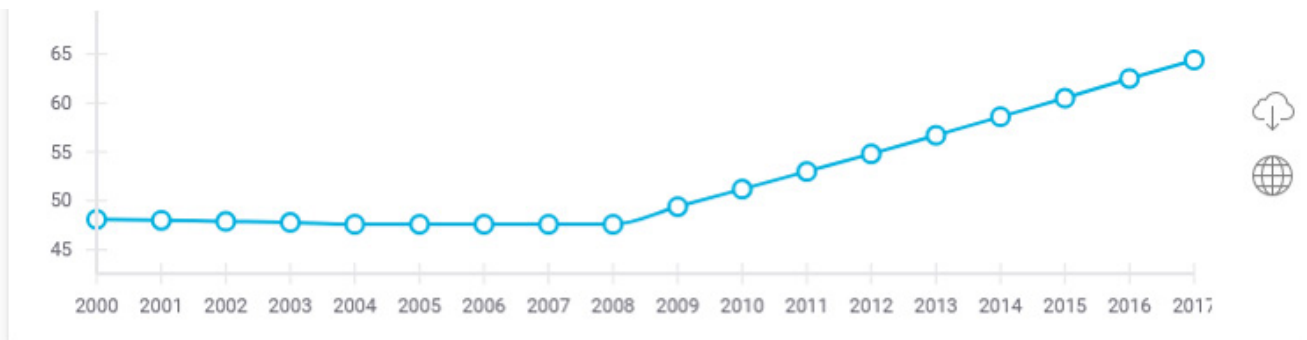


Clean Water and Sanitation

Ensure availability and sustainable management of water and sanitation for all

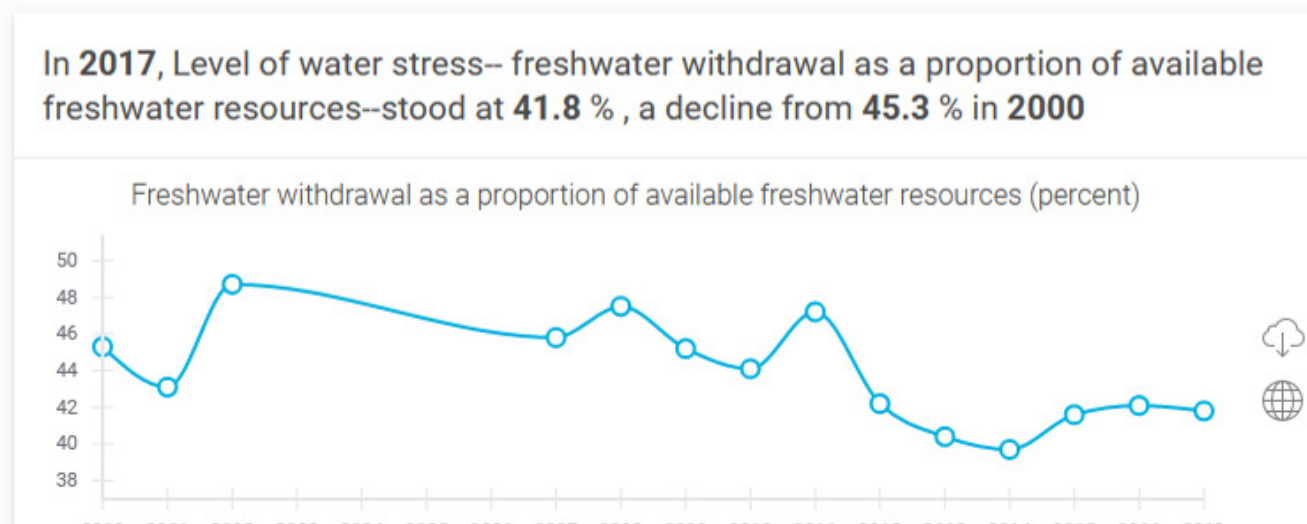
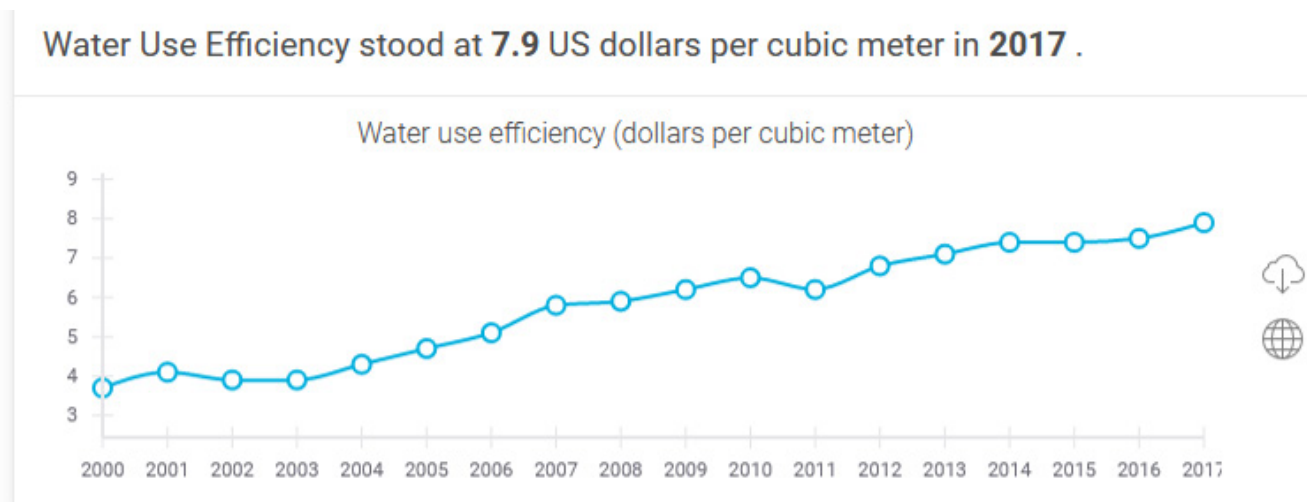
In 2017, 96.9 % of the population used a safely managed drinking water service--an improved source located on premises, available when needed and free from contamination





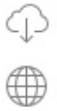
0% In 2017, 0.0 % of the population practiced open defecation

73.4% The proportion of safely treated domestic wastewater flows was 73.4 % in 2018.



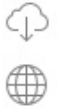
60%

The degree of integrated water resources management implementation was **60.0 %** in **2018**.



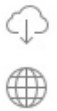
99.6%

In **2017**, The proportion of transboundary basins (river and lake basins and aquifers) with an operational arrangement for water cooperation stood at **99.6 %**.



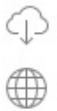
98%

In **2017**, The proportion of transboundary aquifers with an operational arrangement for water cooperation stood at **98.0 %**.



100%

In **2017**, The proportion of transboundary river and lake basins with an operational arrangement for water cooperation stood at **100.0 %**.



98%

In **2017**, The proportion of transboundary aquifers with an operational arrangement for water cooperation stood at **98.0 %**.



100%

In **2017**, The proportion of transboundary river and lake basins with an operational arrangement for water cooperation stood at **100.0 %**.



The permanent water body extent stood at **1.0 %** of total land area in **2018**.

Permanent water body extent as a proportion of total land area (percent)





Developing the introduction

Overall Aim of Sustainable Development Goal 6

CLEAN WATER AND SANITARY CONDITIONS

Water is the source of life on Earth, a great natural value that covers 71% of the surface of our planet, the most common chemical compound and the necessary basis for the existence of all life on the planet. The high content in plants (up to 90%) and in the human body (about 70%) only confirms the importance of this component, which has no taste, smell and color. The role of water in human life is invaluable: it is used for drinking, food, washing, various household and industrial needs. Water is life. The role of water in human life can be determined by its share in the body and organs, each cell of which is rich in an aqueous solution of essential nutrients. Water is one of the effective means of physical education, widely used for personal hygiene, recreational physical education, hardening and water sports. This is due to geophysical conditions, human economic activity, often reckless and irresponsible, which significantly increases the load of water resources and water to their pollution. A huge amount of water goes to the needs of cities and industry, which not only consume but also pollute water, dumping about 2 million tons of waste in water bodies every day. The same is true for agriculture, where millions of tonnes of waste products and fertilizers are poured into waterways from farms and fields. In Europe, of the 55 rivers, only 5 are considered clean, while in Asia all rivers are heavily littered with agricultural waste and metals. In China, 550 of the 600 cities are short of water; due to heavy pollution, fish do not survive in water bodies, and some rivers that flow into the ocean simply do not reach it.

Why is it important for educational community?

The question of protecting water sources from pollution and depletion is acute all over the world. The future of humanity is in question with regard to drinking water. Pure drinking water will be a high-value coin for goods that we currently consider a luxury.

Preserving the purity of water and providing the population with clean drinking water is an issue of important health, economic and social importance for all mankind.

It is important for the development and education of students through environmental activities and lessons for the preservation of clean water. The philosophy of

environmental management focuses on the prudent and economical use of resources to achieve a balance between:

- short-term / long-term economic benefit;
- long-term environmental protection;
- proper management of environmental structures and processes. In this sense, it is a process of control over human activity that affects the environment, and the ultimate goal is to reduce the harmful effects to a minimum. When young people are informed, they start living in an environmentally friendly and environmentally friendly way.

Key dimensions of Sustainable Development 6

Ensure access to clean drinking water for all people around the world.

To provide access to sanitary and hygienic conditions (reliable drainage systems and good waste management) and civic education in health and hygiene habits for all people around the world.

Monitor water quality to reduce water pollution.

Protect and restore aquatic ecosystems, including mountains, forests, wetlands, aquifers and lakes.

The interplay between Sustainable Development Goal 6 and the acquisition of 21st century skills

To improve and optimize water use by developing better technologies for its reuse. Saving water requires little effort, but it's all worth it. Don't think that your actions don't matter. Anyone who has the desire can make lifestyle changes to reduce water consumption. The important thing is that every change becomes a sustainable habit, not a momentary phenomenon.

People from different communities need more knowledge so that this knowledge plays an important role in improving water and sanitation management.

Activity 1

Learning Tool Code	Title
SDG6-SDGfP	WE LEARN ABOUT WATER WITH FACTS AND FIGURES
Objectives	
<ul style="list-style-type: none"> • To consolidate students' knowledge of the properties of water, to identify the causes of water pollution, to expand the ideas about the protection of water from humans; • Expanding children's ideas about the world around them through comparisons, comparisons, connecting meaningful and meaningful fragments of water. • Consolidation and enrichment of knowledge about the main water pollutants and ways of protection. Improving teamwork skills and presentation of a finished product. Creating a group product through digital materials 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials- Resources: Each group has mobile phones, a set of pre-prepared materials on the topic of the pre- set project, chemicals, sheets, etc. <p>Technological security: Windows environment with Microsoft Office (PowerPoint), laptop, big screen, mobile phones.</p> <ul style="list-style-type: none"> ❖ Duration – 60 minutes ❖ Number of groups - several groups of students - (5th grade, ages 11-12) 	
Instructions	
<p>Students are given homework on a project in advance. In the form of a short text, answer the questions:</p> <ol style="list-style-type: none"> 1) Water is unique because ... 2) Water is needed because ... 3) Water should be used wisely because ... 4) The water must be kept clean because ... 5) Illustrate the project with a picture. <p>Lesson plan:</p> <ol style="list-style-type: none"> 1. Students present their pre-prepared projects. Each team nominates a representative who presents the finished project to the audience. 2. The teacher introduces the main topic: March 22 World Water Day. 3. The topic of the multidisciplinary lesson is set: "We learn about water with facts and figures." 4. Recall the basic properties of water. 	

5. Working in groups - task: Give examples of three substances that dissolve and three substances that do not dissolve in water.

Emphasis is placed on the meaning and uniqueness of the property thermal conductivity.

6. The math teacher says that he has two favorite numbers - 0 and 100 and provokes the students to connect

other known properties of water through them.

7. The multimedia is assigned a picture of the globe from space. Students think about why blue is the predominant color in the picture.

Total area of the Earth - 510.2 million square kilometers		
Occupied by land - 149.0 million sq.km.	Occupied by water - 361.2 million sq. Km	Total 510.2 million sq. Km

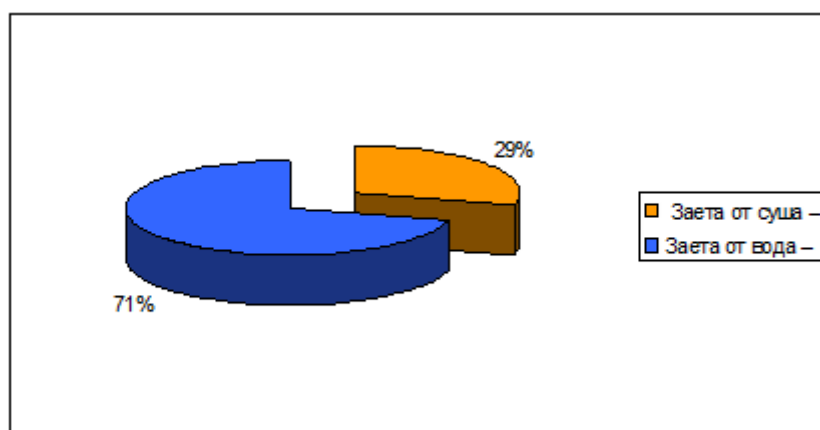
With task 1: Express in percentage the water and the land. Round the percentages to an integer.

Task 2: How many times is the area occupied by water larger than the land area? (Round to the tenth). Students practice their knowledge of working with data set in a table, calculating a percentage and rounding a decimal fraction.

Students are given homework: Based on the data given in the table, create a pie chart of the distribution of land and water on Earth.

Total area of the Earth - 510.2 million square kilometers	
Occupied by land - 149.0 million sq. Km	Occupied by water - 361.2 million sq. Km

Students are shown a sample pie chart of what their homework should look like. The distribution of water and land on the surface of the globe.



The distribution of water on the Earth's surface is then considered in the following table.

	mass million tons	Type of water %
World Ocean	142	Saltwater 97.5%
Rivers and lakes	0,05	Fresh water 2,5%
Glaciers	3,53	
Atmosphere	0,0013	

Through the data given in the table, the students come to the conclusion that a person needs fresh water and there is little fresh water on Earth.

Task 3: Spruce weighs 100 kg, of which 85% is water. How many kilograms is water?

Task 4: The salmon weighs 2 kg, of which 1 kg and 500 g is water. What percentage is water?

Task 5: In granite, the water is about 0.5%. In a ton of granite, how many kilograms is water?

Tasks 3, 4 and 5, strengthen the students' knowledge related to the main tasks for finding a percentage. Also

from them the students understand that water is everywhere in the living and inanimate nature and reach this conclusion.

Protecting water from pollution is a policy not only of Bulgaria but also of the European Union.

Working in groups - Task: What are the sources of water pollution?

Students work in teams and finally summarize the sources of pollution with the teacher.

Next task 6: Oil is spilled on the surface of the water. The spill of oil on the surface of the water occupies a rectangular area. It is 26 meters long and 11 meters wide. Find the area of the oil slick.

Shows students with pictures how oil pollution affects the environment and animals. From a mathematical point of view, students find the face of a rectangle.

The lesson continues with a brainstorming session. How does water pollution harm:

- Plants
- The animals
- People

The students came to the conclusion that: Do not pollute the water! Dirty water kills all living organisms! Students are emphasized that polluted water contains many impurities that are harmful to humans. To prevent

unpleasant consequences, it is necessary to filter the water they drink. They watch a video that summarizes everything said so far in the lesson.

Then they summarize the following conclusion: Filter the water to be healthy!

Students are introduced to the concept of "virtual water" - A person consumes a huge amount of fresh water. The water used to produce agricultural or industrial goods is called 'virtual water', which is contained in the goods.

To receive:

1 ton of steel, you need 150 tons of water

250 tons of water are needed to produce 1 ton of paper

To make 1 cup of coffee, you need 140 liters of water.

To produce enough flour for one loaf (400 grams), you need 550 liters of water. The production of 1 liter of milk requires 1000 liters of water.

The production of 1 kilogram of rice requires 3000 liters of water

The production of 1 kg of corn requires 900 liters of water.

Then they solve a practical problem: A person uses an average of 6 liters of water to brush his teeth. To rinse a toilet bowl, use 2.5 times more water than to brush your teeth.

For bathing - 10 times more than for rinsing a toilet bowl.

How many liters of water will a person consume per day if he brushes his teeth twice a day, rinses the toilet 5 times and bathes once a day?

We all think we use water wisely, but is that so?

The next task: Students should arrange in the fields "RIGHT" and "WRONG" how they use water in their daily lives. They work in groups and each group presents its solution (the task of each group is different and aims to summarize how to use water wisely in our daily lives).

After this task, the students themselves come to the following conclusion: Save water! It is not inexhaustible! Task 8 is a brainstorming session and students deal with it quickly, even without writing. It is known that 200 liters of water flow through a poorly closed fountain per day.

Estimate the losses if there are 2 unclosed taps in your home. What will be the loss for one day? And for a week?

The next task is practical. Task 9: In Petya's house, the kitchen faucet breaks down and drips for 12 minutes and fills a two-hundred-gram glass of water. How many liters of water flow in an hour?

Through it, students train to solve text problems and turn them into different units of measurement. They also learn to take into account family finances.

After these tasks, the students come to the conclusions on their own: Keep the taps in good condition. Save water! By saving water, you save family money.

At the end of the lesson, students are given the opportunity to think about what would happen if not a single drop of water remained on the planet.

It's time to think seriously about how to save every pond, every drop of clean water!

Humanity is not threatened by a lack of water. It is threatened by something worse - the lack of clean water.

The presentation ends that we have to save the water!

At the very end of the lesson, students participate individually in an interactive quiz that summarizes what they have learned.

Tips for the facilitator

- 1) The teacher with the summary directs the students' attention to what needs to change in order to preserve the water on the planet.
- 2) At the end of the lesson, students are given the opportunity to think about what would happen if not a single drop of water remained on the planet.

Debriefing

Students to create an interactive quiz that summarizes what they have learned.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.youtube.com/watch?v=j5K5u3yCvhw>

<https://www.youtube.com/watch?v=Om42Lppkd9w>


https://www.youtube.com/watch?v=71lBbTy-_n4



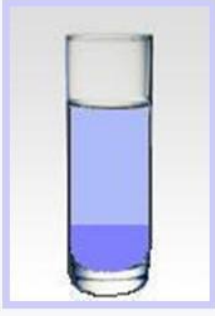



**WE LEARN ABOUT WATER WITH FACTS
AND FIGURES**




- 1. Water has no color, it is transparent**
- 2. The water has no smell**
- 3. The water has no taste.**



Water properties



Water is a solvent, but not all substances dissolve in it.



Work in groups

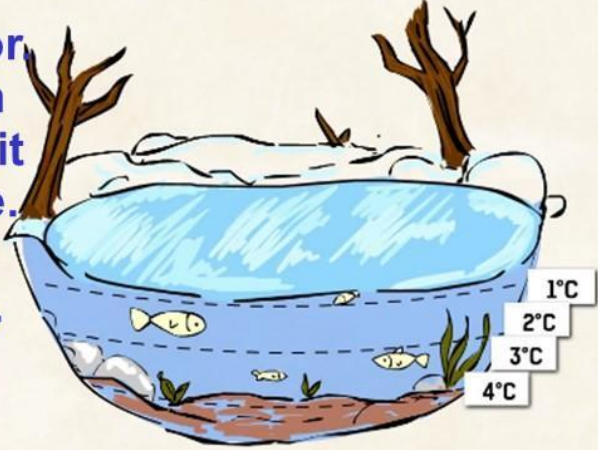
Water properties

Give examples of three substances that dissolve and three substances that do not dissolve in water.

Water properties

Thermal conductivity

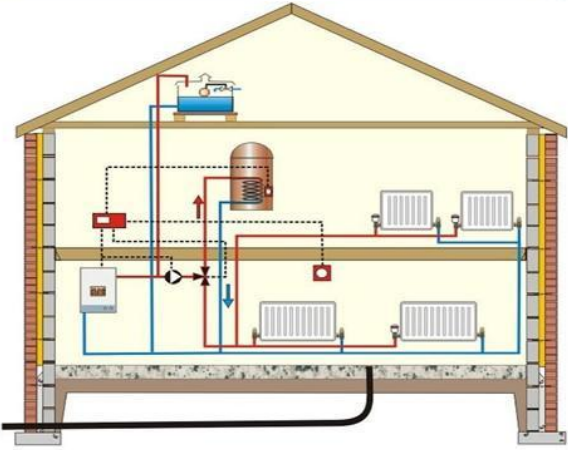
Ice is a bad heat conductor. Due to this property, when the lake freezes in winter, it freezes only on its surface. In this way the life in the water basins is preserved.



Water properties

Thermal conductivity

The liquid is a good heat conductor. Thanks to this property, central heating is created.





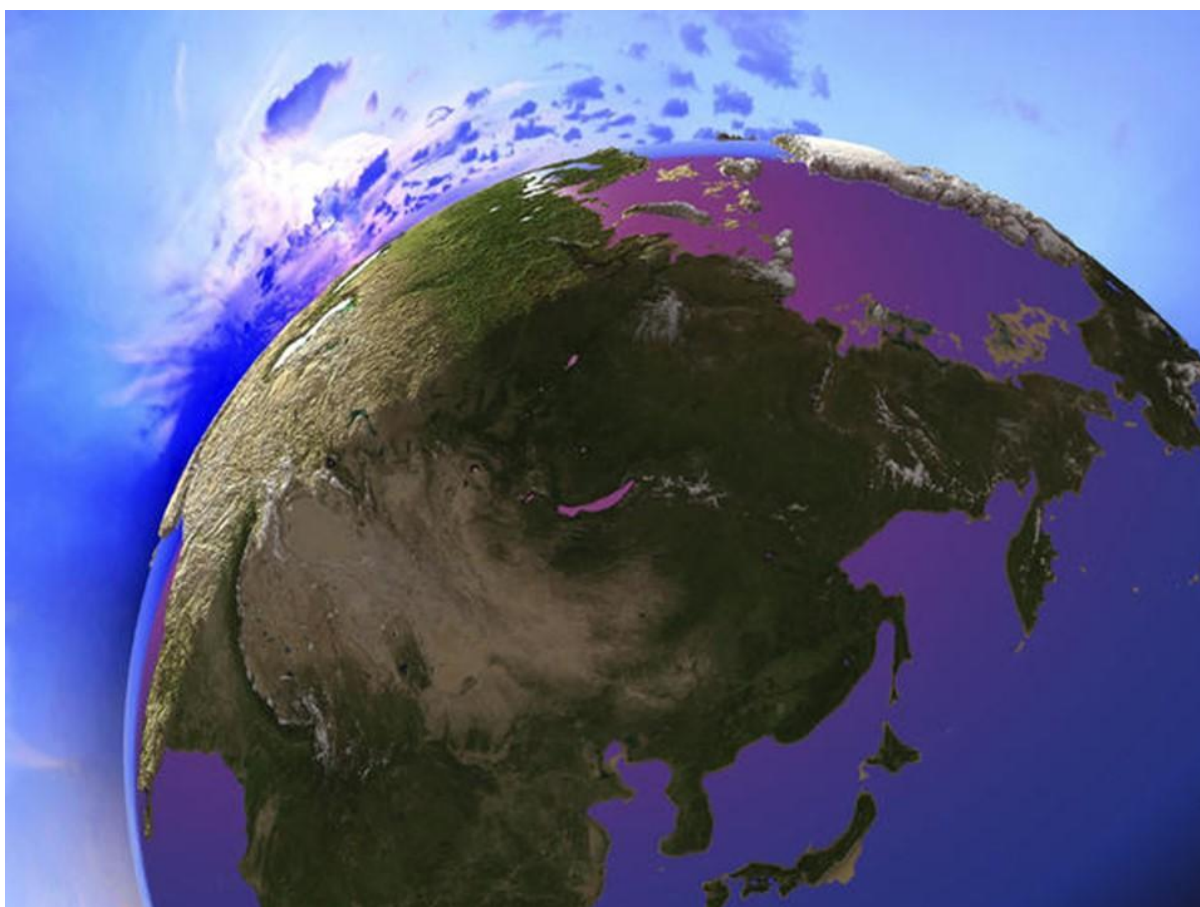
0

1) When heated, melting occurs

2) When cooled, frost occurs

100

Boiling of clean water occurs.





Task 1: Express water and land in percentages. Round the percentages to an integer.

The distribution of water and land on the surface of the globe

Task 1: Express water and land in percentages. Round the percentages to an integer.

DROUGHT:

WATER:

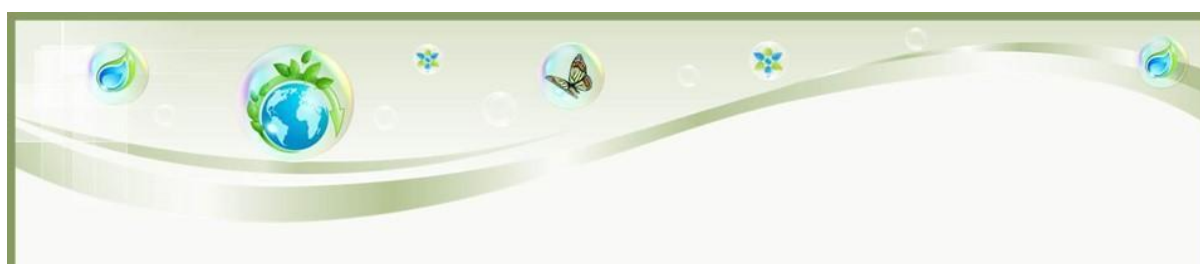
Panone E. & C.



Task 2: How many times is the area occupied by water larger than the land area? (Round to the tenth).

2,4

Panono E. A.



Homework: Based on the data given in the table, create a pie chart of the distribution of land and water on Earth.

Total area of the Earth - 510.2 million sq. Km	
Occupied by land – 149.0 million sq. Km	Occupied by water – 361.2 million sq. Km



**WHAT CONCLUSION CAN WE DO
WE DO IT?**



Conclusion:

Man needs fresh water, and there is little fresh water on Earth.



Did you know that: There is water in plants, in animals, in man and even in stone ...

Task 3: Spruce weighs 100 kg, of which 85% is water.

How many kilograms is it the water?



Panono E. A.

Seno118

Solution of the problem:



$$\begin{aligned}
 &85\% \text{ of } 100 \text{ kg} = \\
 &= \frac{85}{100} \cdot 100 = 85 \text{ kg water}
 \end{aligned}$$

Seno118

Did you know that: There is water in plants, in animals, in man and even in stone ...



Task 4: The salmon weighs 2 kg, of which 1 kg and 500 g is water.

What percentage is water?

Solution of the problem:



$$X \% \text{ from } 2 \text{ kg.} = 1.500 \text{ kg}$$

$$\underline{X} \cdot 2 = 1,500$$

$$100$$

$$X = 1,500 \cdot (100:2)$$

$$X = 75\% \text{ water}$$

Did you know that: There is water in plants, in animals, in man and even in stone ...



- **Task 5: In granite, the water is about 0.5%.**
- *In a ton of granite, how many kilograms is water?*

Solution of the problem:

$$1 \text{ t} = 1000 \text{ kg}$$

$$0,5\% \text{ from } 1000 \text{ kg} = \frac{0,5}{100} \cdot 1000 =$$

$$= \frac{5}{10} \cdot 1000 = 5 \text{ kg water}$$



Conclusion: Water is everywhere. In plants, animals, people, even in inanimate nature!



Panono E. A.

DEFINITION OF WATER POLLUTION

Water pollution is defined as the pollution of lakes, rivers, oceans and groundwater caused by human impact, which can lead to the death of organisms and plants living in these environments.

Panono E. A.

European Union policy for the protection of the World Window

- Everyone is obliged to protect the water and take care of this invaluable natural resource.



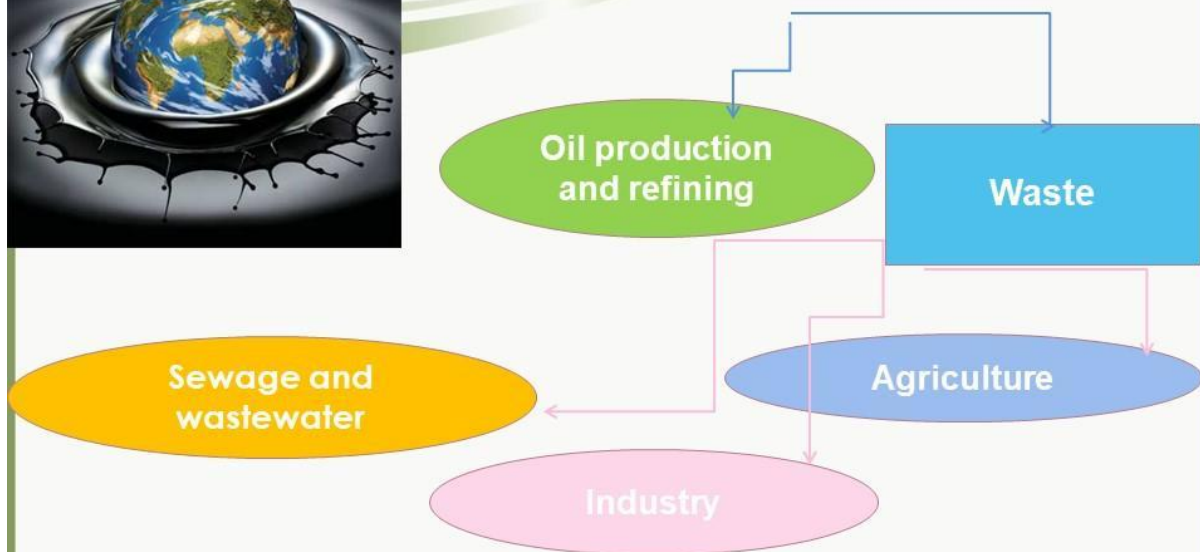
Work in groups

Task: What are the sources of water pollution?





Causes of water pollution



Scientists have estimated that every year around the world so many harmful substances fall into the water that they can fill 10,000 trucks.


Panono E. A.

Environmental pollution

Task 6: Oil is spilled on the surface of the water. The spill of oil on the surface of the water occupies a rectangular area. It is 26 meters long and 11 meters wide. Find the area of the oil slick.



Solution of the problem:

11 m. 

26 m.

$S = 26 \times 11 = 286$ sq. M. is the oil slick

Panono E. A.

Brain attack

How does water pollution harm:

- Plants**
- The animals**
- People**




all living things suffer from water pollution.

Save Water!



Panono E. A.

**WHAT CONCLUSION CAN WE DO
WE DO IT?**



Conclusion: Do not pollute the water! Dirty water kills all living organisms!

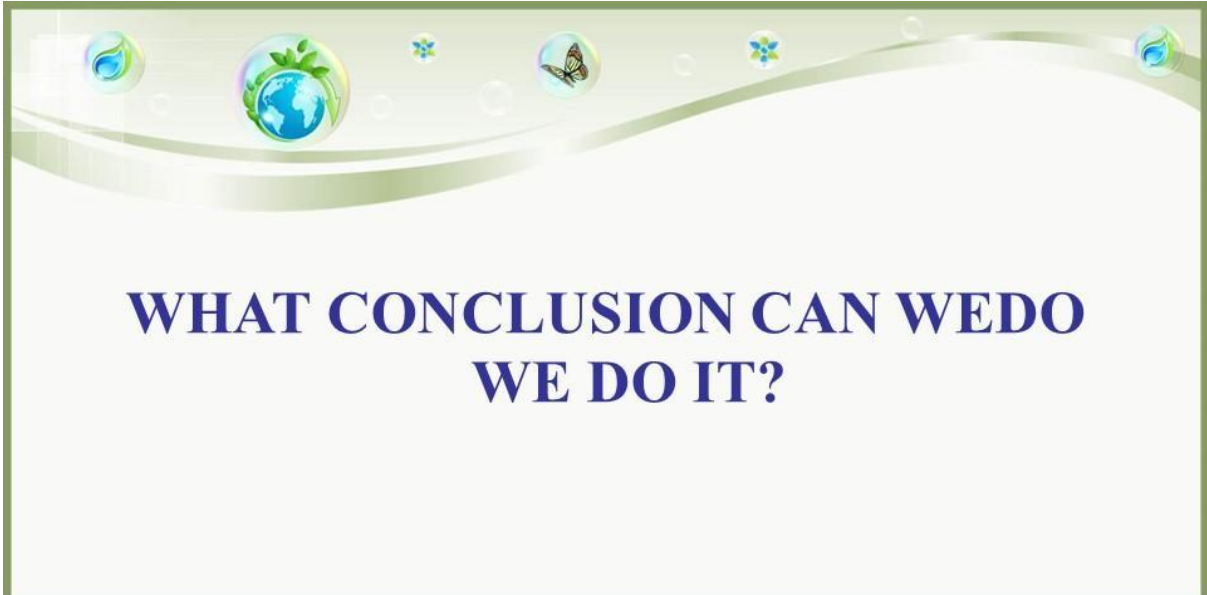



Panono E. A.

Do not drink contaminated water

Contaminated water contains many impurities that are harmful to humans. To prevent unpleasant consequences, filter the water.








Did you know that:

One consumes a huge amount of fresh water.

The water used to produce agricultural or industrial goods is called 'virtual water', which is contained in the goods.

To receive: 1 ton of steel, you need 150 tons of water. 250 tons of water are needed to produce 1 ton of paper. To make 1 cup of coffee, you need 140 liters of water. To produce enough flour for one loaf (400 grams), you need 550 liters of water. The production of 1 liter of milk requires 1000 liters of water. Production of 1 kg of rice requires 3000 liters of water. Production per 1 kg of corn requires 900 liters of water.


Panono E. A.



Water consumption

Task 6: A person uses an average of 6 liters of water to brush his teeth. To rinse a toilet bowl, use 2.5 times more water than to brush your teeth. For bathing - 10 times more than for rinsing a toilet bowl. How many liters of water will a person consume per day if he brushes his teeth twice a day, rinses the toilet 5 times and bathes once a day?

Panono E. A.




Solution of the problem:

2 x 6 liters of water for brushing teeth = 12 liters per day
2.5 x 6 l. = 15 l.

Water for one rinsing of a toilet bowl
5 x 15 liters = 75 liters of water per day for the toilet
10 x 15 l. = 150 l.


Bathing water. 12л. + 75л. + 150л. = 237 liters of water per day

Panono E. A.



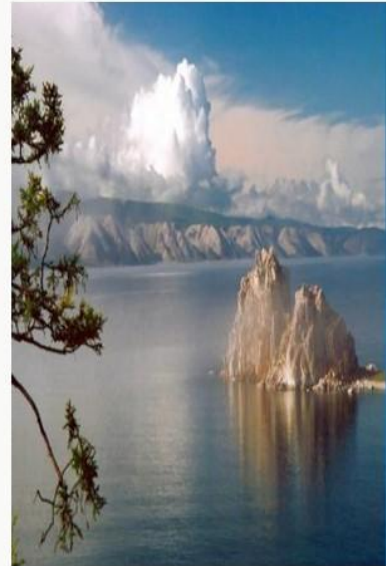
We all think we use water wisely, but is that so?

Arrange in the fields "CORRECT" and "WRONG" how you use water in your daily life.



Human water consumption

Mankind consumes a huge amount of fresh water. By the beginning of the 21st century, water consumption is more than 200 liters per person per day. According to the latest data in large cities, one person uses more than 500 liters per day. Although according to the calculations of specialists per person does not need more than 250 liters of water per day.



Panono E. A.

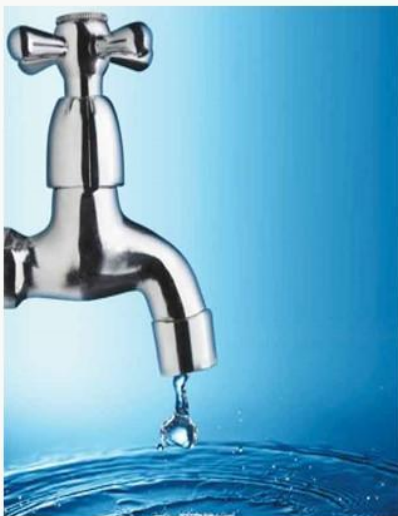
WHAT CONCLUSION CAN WE DO WE DO IT?



Conclusion: Save water! It is not inexhaustible!



Wash your hands and don't forget to turn off the tap!



It is estimated that 8 liters of water will flow in a minute from a faulty tap.

Save water!

Three drops of water per second from a poorly closed tap is almost 30 liters per day. Remember: Water supplies are not infinite!

Task 7. It is known that 200 liters of water flow through a poorly closed fountain per day. Estimate the losses if there are 2 unclosed taps in your home. What will be the loss for one day?




And for a week?



Panono E. A.

Task 8: In Petya's house, the kitchen faucet breaks down and drips for 12 minutes and fills a two-hundred-gram glass of water. How many liters of water flow in an hour?





Solution of the problem:

For 12 minutes - 1 cup of water = 200 g.

1 hour = 60 minutes = 5. 12 minutes

5. 200 g = 1000 g = 1 liter of water



**WHAT CONCLUSION CAN WE DO
WE DO IT?**



Conclusion: Keep the taps in good condition. Save water!

By saving water, you save family money.

ПЕСТЕТЕ ВОДАТА



**Всяка капка
е от значение**



Раного Е. А.

Life without water ...



Imagine that there is not a single drop of water left on the planet. What will happen then? Instead of the ocean of the world - the desert!

All life on Earth will die, the planet will be left without living beings. Scientists have found: a person without food can live 3-4 weeks, and without water 3-4 days, then he will die.



Раного Е. А.

This is what our planet will look like ...



Unpleasant picture ...



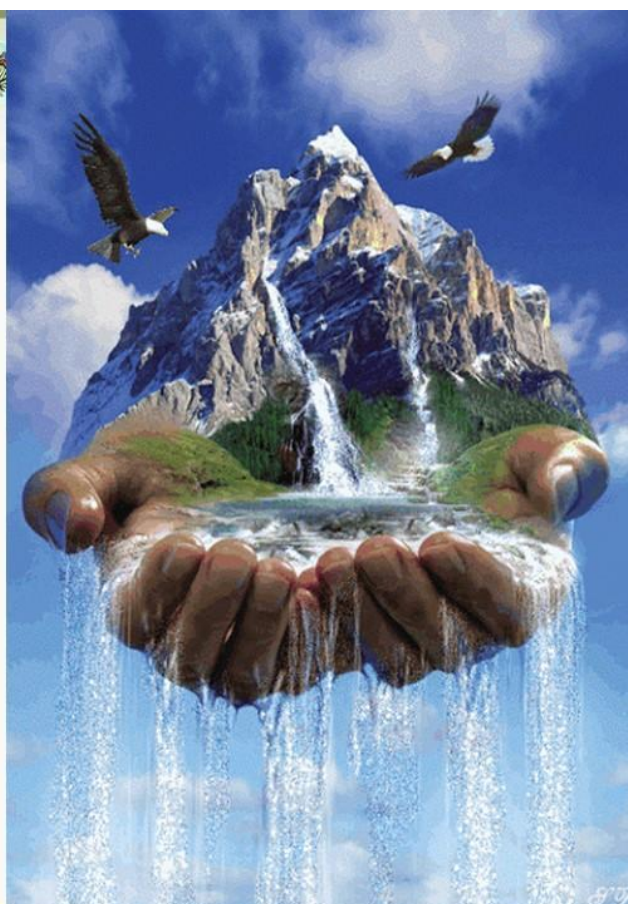
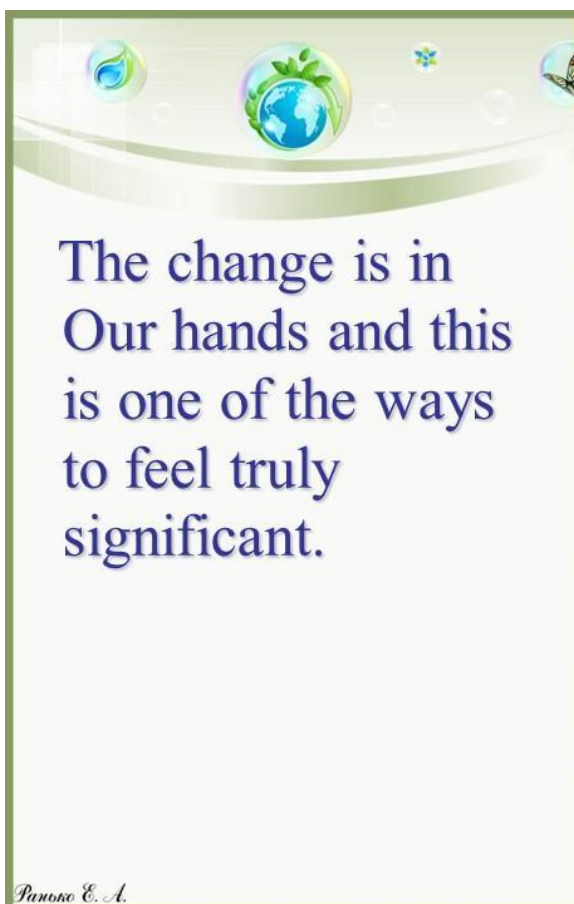
Only drought

Panono E. A.

It's time to think seriously about how to save every pond, every drop of clean water! Humanity is not threatened by a lack of water. It is threatened by something worse - the lack of clean water.



Panono E. A.



Activity 2

Learning Tool Code	Title
SDG6-SDGfP	WATER IS A PRICELESS GIFT FROM NATURE
Objectives	
<ol style="list-style-type: none"> 1. Summary of students' knowledge of water as the most common substance on Earth, water as a living environment and living conditions obtained in lessons in various natural sciences. 2. Improving the skills for independent work with additional literature. 3. Development of the ecological education of the students in the lessons on man and nature 4. Increasing the role of man in solving modern environmental problems. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - globe, table "Water consumption in different enterprises", chemical bulletin "All about water", a selection of literature on water, posters on "Save water", pre-made by students. ❖ Duration - 72 min. ❖ Number of groups - several groups of students - (5 grade, ages 11-12) 	
Instructions	
<p>The lesson is held in the form of a game conference, which brings together representatives of expert groups who study the following issues:</p> <ol style="list-style-type: none"> 1. Sources of water pollution. 2. Operation of a treatment plant. 3. Drinking water quality. <p>Students take on the role of experts.</p> <p>The teacher starts the lesson by formulating the topic of the lesson, its objectives and presenting the expert groups. / 7 minutes /</p> <p><i>1 expert.</i> Water is the most unique substance in the world. Water is an invaluable natural gift needed for life on planet Earth. For thousands of years, man has admired and enjoyed the water. The globe clearly shows that 3/4 of our planet is water and the rest is earth. Astronauts, who first saw Earth from space, said it did not look like a globe at all, but like a water polo ball. The problems with the depletion of water resources are especially relevant today. Water must be protected for future generations. Imagine that water will disappear from our planet. The gloomy, gaping "eye sockets" will appear in the trenches</p>	

of the sea ocean, covered with a thick layer of salt. The riverbeds will dry up, the springs and streams will be silenced. The rocks will crumble as they contain chemically bound water. There will be no bush, no flower, no living thing on the dead Earth.

The teacher has a conversation with the class: "Students, what do you know about the importance of water?" / 7 minutes /

2 expert. Water is the most unique substance on Earth. The paradox is that there is a lot of water, but there is little fresh water. In some areas it rains often and there are heavy floods, and in others it does not rain for months, there is a drought.

The main reserves of fresh water are concentrated in the glaciers of Antarctica and Greenland. Fresh water represents only 2% of its total mass.

It is believed that man uses water mainly in everyday life. In fact, most of the fresh water is consumed in industrial production and agriculture. Water is needed in all sectors of the national economy. The largest consumer of water in our country is agriculture, in second place are industry and energy, in third place are the municipal services of the city.

Water consumption in the production of certain substances and materials. / 10 minutes /

Substances and materials	Quantity	Water consumption
Wheat	one	1500
Rice	one	7000
Cotton	one	10000
Sugar	one	3
Aluminum	one	1200
Synthetic fibers	one	2000-5000
Paper	one	250-400
Textile	100 m	25

3 experts. In Bulgaria, one of the places where a very large amount of water is consumed is the pulp mill in the town of Svishtov, which does not release enough purified water into the Danube River. The town of Svishtov is one of the biggest polluters of the Danube. In the area of the city, pollutants from many enterprises enter the river - woodworking, pulp mill, as well as from urban wastewater. The discharged waters contain sulfur compounds, nitrates, phosphates, ammonium salts, heavy metals, phenols, petroleum products and others. These pollutants are not harmless when they enter the water, they cause the death of plankton and mollusks that are involved in water self-purification. Caviar is particularly sensitive to water pollution. High concentrations of pollutants affect the metabolism of warm-blooded animals and humans, leading to the failure of all functional systems of living organisms. What should we do? How to avoid pollution of water bodies? / 7 minutes /

4 experts. In every city and in every large enterprise there is a treatment plant where all wastewater is treated. Wastewater treatment methods are divided into mechanical, biological and chemical. Hundreds of thousands of cubic meters of water pass through the treatment plant every day. First, the water is cleaned mechanically. Large water-insoluble contaminants, including household waste (paper, plastic bags, etc.), are retained by means of gratings. The separation of smaller particles, insoluble in water, is carried out in three primary clarifications with radial type, each with a diameter of 28-30 m. For biological treatment special structures are used - aeration tanks. They feed on a special biological sediment containing microorganisms - bacteria, protozoa: amoebae, cilia and algae. It, which contains all these microorganisms is called active. The precipitate is mixed with water saturated with oxygen. The simplest organisms, visible only through a microscope, bring life back to water: they oxidize harmful impurities, destroy everything that cannot be removed from water by mechanical cleaning. Biological cleaning takes about 7 hours. The water then enters the contact tanks, where it is chemically treated. Only then does the water flow into the river.

In the event of a volley discharge of a large amount of toxic substances into the sewage system, the microorganisms in the water may die completely, and the biological treatment plant will not work for several months. To prevent this, special standards for hazardous wastewater have been developed for industrial plants. Their observance is controlled by a chemical laboratory of the treatment facilities. / 10 minutes /

Teacher. But all these structures cannot completely solve the problem of protecting water bodies from pollution. To keep water clean, we need to stop thinking of water basins as waste tanks. In large enterprises, this problem can be solved only by switching to a closed water supply system or closed-loop technology, in which the used and then purified water is taken in the enterprises

and only replenishes its losses from external sources. Nowadays, they not only design but also build plants where wastewater disposal is completely eliminated. This is especially important for the chemical, pulp and paper and metallurgical industries. / 3 minutes /

5 expert. There are special requirements for the quality of drinking water. Therefore, the path to its purification is longer: mechanical purification - biological purification - clarification - disinfection - stabilization - softening - return to the user. Unfortunately, the water in our country does not always meet the requirements. For example, in our water the iron content is much higher than normal. Doctors associate this fact with a high incidence of diseases of the digestive system and coronary heart disease among the people of the country. The question arises, what to do? It is necessary to settle the water for a day or to boil it or to pass it through a household filter. In this case, the soluble iron salts are converted into insoluble compounds. In addition, our water is very hard. And the greater the stiffness, the greater the likelihood of developing urolithiasis and cholelithiasis and even cancer. At home, the water is boiled or passed through a filter. In addition to harm to the body, hard water creates many problems in everyday life - detergents foam poorly, scale forms in the kettle, central heating systems become clogged. Therefore, it is necessary to add special softeners to the water. / 7 minutes /

Teacher. The problems with water protection and purification are becoming more acute every year. It is possible that in the near future one of the current students will have to take responsibility for solving certain problems that are directly related to the condition of the treatment facilities. So today you have to learn to make the right decisions yourself. To do this, I offer you several tasks:

1. Sea water contains salt, sand, sawdust, gasoline. How to purify this water from all impurities? Suggest a step-by-step method for water purification. / 4 minutes/
2. Calculate the volume of water that has leaked uselessly due to a poorly closed tap per hour and per day if a glass (250 ml) is filled in 1 minute. / 4 minutes /
3. After completing the lab work, your classmate poured the used reagents into the sink, not into a specially prepared container. What would you do:
 - a) you will also pour your reagents there;
 - b) explain to him why this should not be done;
 - c) tell the teacher about his actions. / 4 minutes /
4. What will you do if you see a rusty bucket on the shore:
 - a) clean the shore by throwing the bucket into the water;
 - b) you do not pay any attention;
 - c) take the bucket to the nearest depot. / 4 minutes /
5. Explain the fact that people have been poisoned by edible mussels caught in the sea area, contaminated with petroleum products. / 4 minutes /

Summary and Conclusions: The Environmental Protection Act, adopted in 2002 and amended several times over the years, prohibits the dumping of polluted water in water bodies, deforestation around water bodies, and littering of shores.

In addition, if we take a lot of water from nature, then our reservoirs will become shallow and may disappear completely. Therefore, it is necessary not only to protect water from pollution, but also to use it economically.

1. Water is a priceless natural gift necessary for life on Earth.
2. There is very little fresh water on Earth - about 2% of the total mass.
3. Undertakings must introduce low-waste technologies and closed water use cycles, provide for the reduction of harmful emissions in water bodies, as well as the construction of treatment facilities.
4. Do not discharge untreated wastewater into closed reservoirs.
5. Do not use wastewater for watering plants.
6. Every citizen of the country must be held responsible for violating the Environmental Protection Act. / 5 minutes /

Tips for the facilitator

The Environmental Protection Act, adopted in 2002 and amended several times over the years, prohibits the dumping of polluted water in water bodies, the felling of forests around water bodies, and the dumping of rubbish on shores.

In addition, if we take a lot of water from nature, then our reservoirs will become shallow and may disappear completely. Therefore, it is necessary not only to protect water from pollution, but also to use it economically. Give your suggestions.

Debriefing

Students to create an interactive quiz that summarizes what they have learned.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.novatx.com/drinking-water/top-6-causes-water-pollution-reduce-risks/>

Annex

Substances and materials	Quantity	Water consumption
Wheat	one	1500
Rice	one	7000
Cotton	one	10000
Sugar	one	3
Aluminum	one	1200
Synthetic fibers	one	2000-5000
Paper	one	250-400
Textile	100 m	25

Sustainable Development Goal 7

Affordable and clean energy



Sustainable Development Goal 7 (SDG 7 or Global Goal 7) is one of 17 Sustainable Development Goals established by the United Nations General Assembly in 2015. It aims to “Ensure access to affordable, reliable, sustainable and modern energy for all. Access to energy is a extremely important for the wellbeing of the people as well as economic development and poverty reduction.

Sustainable Development Goal 7 (SDG 2) is about „Affordable and clean energy”

Lack of access to energy supplies and transformation systems is a constraint to human and economic development. The environment provides a series of renewable and non-renewable energy sources i.e. solar, wind, hydropower, geothermal, biofuels, natural gas, coal, petroleum, uranium.

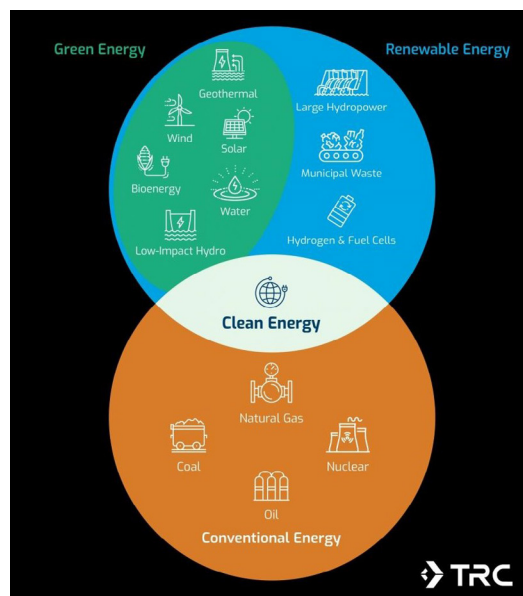
Increased use of fossil fuels without actions to mitigate greenhouse gases will have global climate change implications. Energy efficiency and increase use of renewables contribute to climate change mitigation and disaster risk reduction. Maintaining and protecting ecosystems allow using and further developing hydropower sources of electricity and bioenergy.

Renewable and green energy are focused on the source (fuel) that generates the energy. Clean energy is focused on the result of the energy generation.

Renewable Energy = Regenerative Sources

Green Energy = Natural Sources

Clean Energy = Clean Air



The Targets

SDG 7 has 5 targets and 6 indicators to measure progress toward targets.

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 By 2030, double the global rate of improvement in energy efficiency.

7.A By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

7.B By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

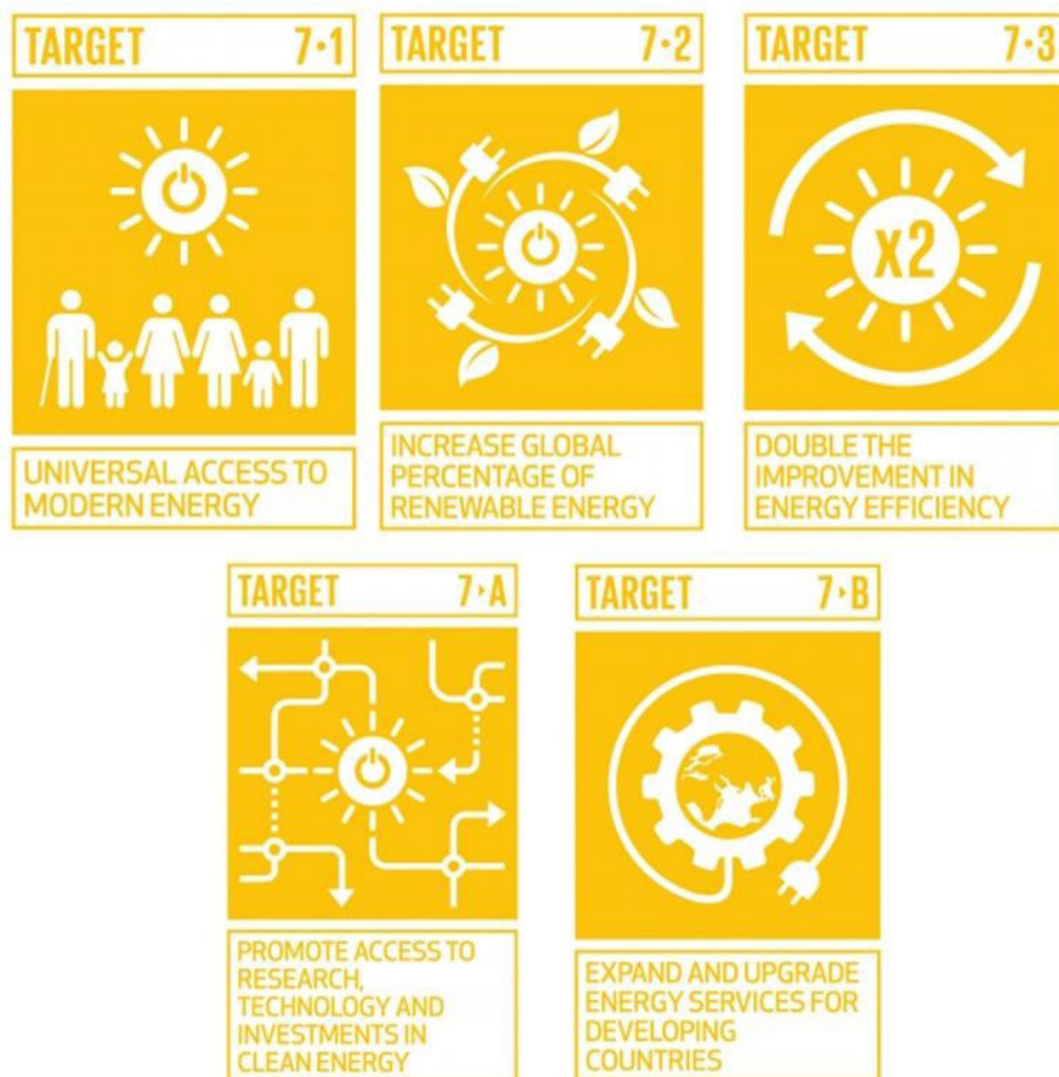


Figure 8.1. Key targets for SDG 7
Source: <https://www.globalgoals.org/>

Why is it important?

The most important aspect of clean energy are the environmental benefits as part of a global energy future. While clean, renewable resources also preserve the world's natural resources, they also reduce the risk of environmental disasters, such as fuel spills or the problems associated with natural gas leaks.

It also provides a variety of environmental and economic benefits, including a reduction in air pollution. A diverse clean energy supply also reduces the dependence on imported fuels

Working towards this goal is especially important as it interlinks with other Sustainable Development Goals. Focusing on universal access to energy, increased energy efficiency and the increased use of renewable energy through new economic and job opportunities is crucial to creating more sustainable and inclusive communities and resilience to environmental issues like climate change.

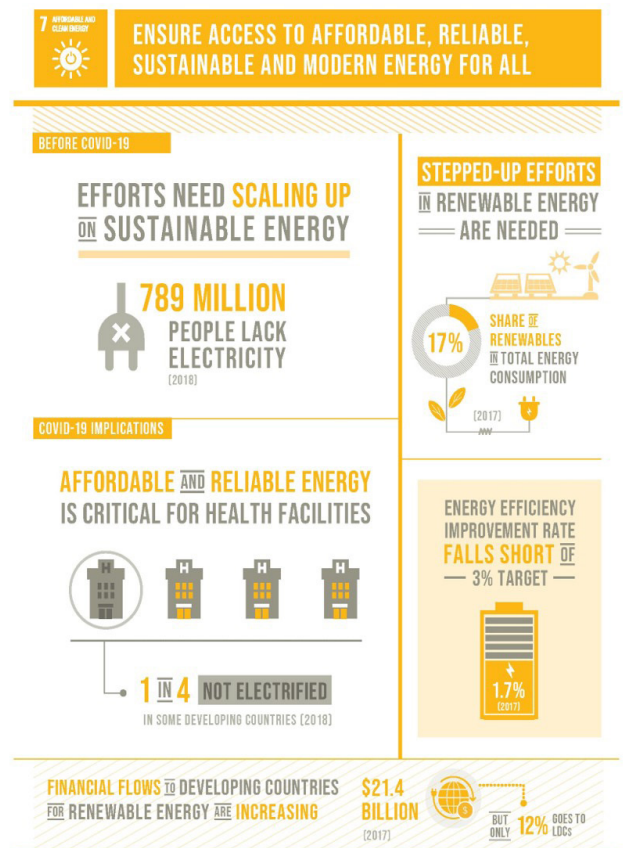
Our everyday lives depend on reliable and affordable energy services to function smoothly and to develop equitably. A well-established energy system supports all sectors: from businesses, medicine and education to agriculture, infrastructure, communications and high-technology.

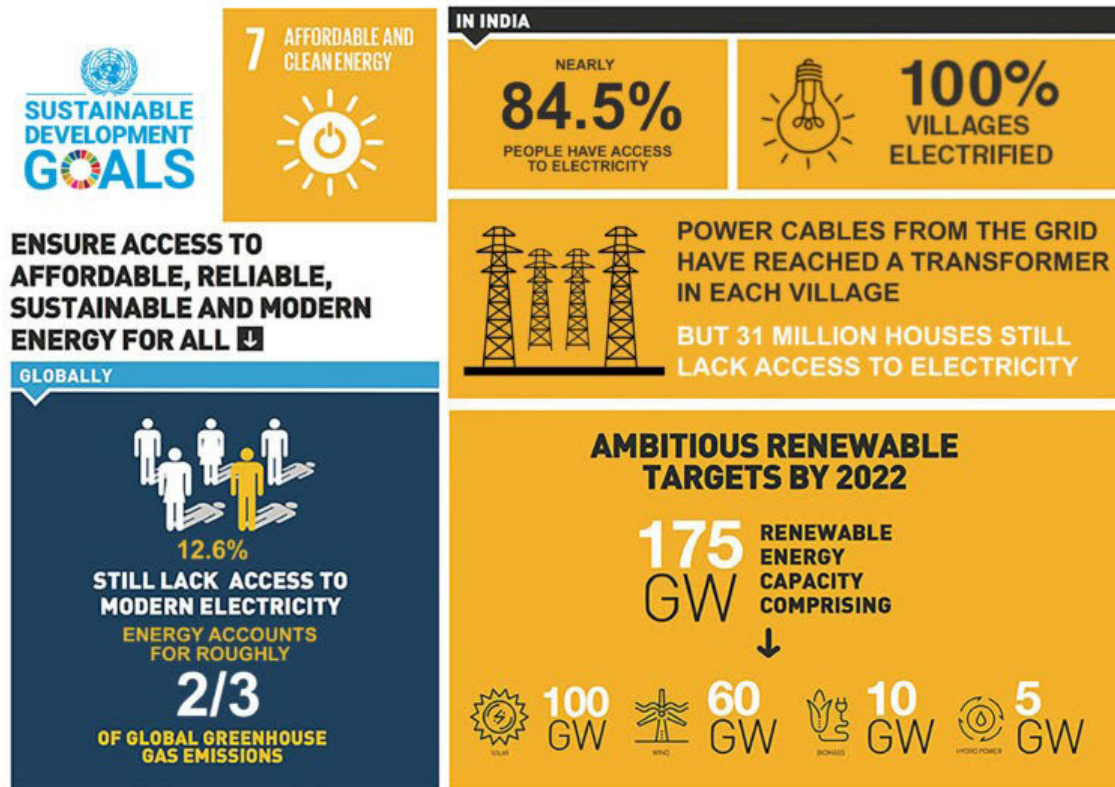
The Challenge

Energy lies at the heart of both the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change.

Ensuring access to affordable, reliable, sustainable and modern energy for all by 2030. will open a new world of opportunities for billions of people through new economic opportunities and jobs, empowered women, children and youth, better education and health, more sustainable, equitable and inclusive communities, and greater protections from, and resilience to, climate change.

In 2020, the COVID-19 pandemic has highlighted the need for reliable and affordable electricity in health centers. One quarter of the health facilities in a number of surveyed developing countries are not electrified, and another quarter has unscheduled outages.





How can we address this?

Goal 7 of the SDGs aims to correct the enormous imbalance of energy accessibility by ensuring everyone has access to affordable, reliable, and modern energy services by the year 2030. To expand energy access, it is crucial to enhance energy efficiency and to invest in renewable energy.

Energy from renewable resources – wind, water, solar, biomass and geothermal energy – is inexhaustible and clean. Although the solution to energy's climate crisis lies off-grid, renewable energy currently constitutes only 15% of the global energy mix. It is time for a new global partnership on sustainable energy for all.

Links to other SDGs

Sustainable development goal 7 (SDG 7) is expected to ensure all households get access to affordable, reliable, sustainable, and modern cooking energy by 2030. Achieving this goal directly contributes to the achievements of:

Sustainable Development Goal 1 (No poverty);

Sustainable Development Goal 3 (Good Health and well-being);

Sustainable Development Goal 4 (Quality Education);

Sustainable Development Goal 5 (Gender equality);

Sustainable Development Goal 15 (Life on land).



Sustainable Development Goal 7: Affordable and clean energy

<https://youtu.be/eGAtNiWgAmA>



References:

1. United Nations (2015) Resolution adopted by the General Assembly on 25 September 2015, Transforming our world: the 2030 Agenda for Sustainable Development (A/RES/70/1), https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
2. A Conversation About Clean Energy (2021), <https://www.trccompanies.com/insights/a-conversation-about-clean-energy/>
3. United Nations (2017) Resolution adopted by United Nations (2017) Resolution adopted by the General Assembly on 6 July 2017, Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313, <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F71%2F313&Language=E&DeviceType=Mobile&LangRequested=False>
4. United Nations (2018). "Achieving targets on energy helps meet other Global Goals, UN forum told". United Nations Sustainable Development. Retrieved 26 August 2020, <https://www.un.org/sustainabledevelopment/blog/2018/07/achieving-targets-on-energy-helps-meet-other-global-goals-un-forum-told-2/>

On these links you can find more information about SDG 7: Affordable and clean energy.

1. <https://sdgs.un.org/goals/goal7>
2. <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-7>
3. <https://www.globalgoals.org/goals/7-affordable-and-clean-energy/>
4. <https://www.undp.org/sustainable-development-goals#affordable-and-clean-energy>
5. https://en.m.wikipedia.org/wiki/Sustainable_Development_Goal_7



Developing the introduction

Overall Aim of Sustainable Development Goal 7 -Affordable and Clean Energy

Lack of access to energy supplies and transformation systems is a constraint to human and economic development. The environment provides a series of renewable and non-renewable energy sources i.e. solar, wind, hydropower, geothermal, biofuels, natural gas, coal, petroleum, uranium.

Increased use of fossil fuels without actions to mitigate greenhouse gases will have global climate change implications. Energy efficiency and increase use of renewables contribute to climate change mitigation and disaster risk reduction. Maintaining and protecting ecosystems allow using and further developing hydropower sources of electricity and bioenergy.

SDG 7 has 5 targets:

- Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services
- Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix
- Target 7.3: By 2030, double the global rate of improvement in energy efficiency
- Target 7.a: By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology
- Target 7.b: By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

Achieving Sustainable Development Goal 7 (SDG 7) – ensuring access to affordable, reliable, sustainable and modern energy for all – with its targets on universal access, energy efficiency and renewable energy, will open a new world of opportunity for

billions of people. It will lay the foundation for the eradication of poverty, for climate action and for a sustainable world. Simply put, without progress on SDG 7, it will be impossible to achieve the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change.

The environmental impacts of energy systems include local, regional and global pollution from the combustion of fuels, climate change and impacts on the integrity and stability of different ecosystems. The exact impacts depend on the type of primary energy source, the conversion technology, the size and location of the system and other factors. Energy is also a major contributor to human health problems, primarily from air pollution caused by the combustion of fuels.

Why is it important for educational community?

SDG 7 aims to promote affordable and clean energy that uses renewable energy sources. It is important for the community to educate how the use of renewable energy sources which will not pollute the environment and it is important for the future of future generations. It is also important to educate young generations how to use renewable energy sources, to educate new generations on the application of modern technologies in energy production. Smart cities will use renewable energy sources and achieve savings in financial terms, while meeting people's needs. SDG 7 is important for the educational community because it helps students to understand the way energy is produced and that clean energy production is closely linked to a clean environment.

Teaching SDG 7 can reflect on the role of local decision-makers and participatory governance how to achieve clean energy production, preserve the environment and gain access to energy for all members of the local community.

It can also help students plan, implement, and evaluate sustainable development projects.

Key dimensions of Sustainable Development Goal 7 -Affordable and Clean Energy

Energy lies at the heart of both the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change.

Ensuring access to affordable, reliable, sustainable and modern energy for all by 2030 will open a new world of opportunities for billions of people through new economic opportunities and jobs, empowered women, children and youth, better education and health, more sustainable, equitable and inclusive communities, and greater protections from, and resilience to, climate change.

Renewable energy solutions are becoming cheaper, more reliable and more efficient every day. Our current reliance on fossil fuels is unsustainable and harmful to the planet, which is why we have to change the way we produce and consume energy. Implementing these new energy solutions as fast as possible is essential to counter climate change, one of the biggest threats to our own survival.

Despite significant progress over the past decade on improving access to electricity, increasing renewable energy use in the electricity sector and improving energy efficiency, the world is still falling short in providing affordable, reliable, sustainable and modern energy for all. Clean and sustainable energy should be at the heart of the COVID-19 response and of efforts to combat climate change.

The interplay between Sustainable Development Goal 7 -Affordable and Clean Energy and the acquisition of 21st century skills

Soft skills are essential for modern-day life and the workplace. Therefore, teaching 21st-century skills to students is as important as teaching content. We have to be adaptable, we have to be creative, we have to be tech-literate and we have to be problem-solvers.

We have access to information literally anytime, anywhere and we must teach students to be able to locate the problem, find the data and information, explore possible solutions, draw a conclusions.

Problem-solving is an important skill. The students must be able to apply problem-solving skills into a real life and real life problems.

Today we are talking about 4C: Critical thinking, Creativity, Collaboration and Communication and these four skills are essential for modern students to succeed in school and the workplace.

Teaching about the importance of clean and affordable energy through problem assignments or research projects will contribute to the development of students' 4C skills and encourage students' interest in the STEM.

At the same time, in the teamwork of making, students will develop emotional and social skills. If necessary, it is important to apply inclusion to students who have such needs.

We need to teach students for the future and for the jobs of the future because they are the ones who will live in that future.



Activity 1

Learning Tool Code	Title
SDG7-SDGfP	Affordable and clean energy
Objectives	
<ul style="list-style-type: none"> - Students distinguish between energy sources (renewable and non-renewable), describe the use of energy conversion - Students interpret the benefits of renewable energy sources (do not pollute the environment, safer for energy production, have no harmful effects on human health, cheaper production) - Explain the terms “clean energy” and “available energy” - Students explain the causes of possible shortcomings in the use of renewable energy sources (geographical location) - Students explain the consequences of using fossil fuels - Students connect the use of renewable energy sources with environmental protection - Analyze data on the use of different energy sources in the world (tables, charts) - They connect the energy consumption in a certain country with its development - They research data on the use of energy sources in their country on a given website and compare them with other countries - Students create simple models of collecting energy from renewable sources - Explore the possibilities of using renewable energy sources in their local community (Project - number of sunny hours in the place of residence, use of solar benches in the city, occupations of the future, etc.) - Only the regulation of one's own attitude towards energy - Team work and teamwork development - Application of critical thinking (application of energy sources and modern technology) and problem solving - Developing modeling skills - Application of critical thinking in the analysis of data from different sources - Developing a positive attitude about the importance of preserving the environment 	
Activity details	
<ul style="list-style-type: none"> ❖ Material – see annex ❖ Duration – 135 min ❖ Group number 15-20 students 	

Instructions

Lesson one (45 min)

1. Introduction to the topic:

Motivational questions for students:

What does the term pure energy mean?

What does the term "available energy" mean?

2. Students receive a table (worksheet 1) which they fill in during their work

They write in the table their previous knowledge of these terms (which I already know)(Table 1. see annex)

3. Students watch a video:

a) Renewable energy

<https://www.youtube.com/watch?v=T4xKThjcKaE&t=21s>

b) SDG Report 2021 - Goal 7

<https://www.youtube.com/watch?v=yMB1jIGtHYE>

4 Students read the given text. (see annex)

5. Students solve tasks in the worksheet (complete Table 1, solve Table 2. and answer questions) (see annex)

6. Discussion and discussion after solving tasks.

Lesson two (90 min)

1. Students analyze data in diagrams, answer questions (worksheet 2)

2. Comment on the data in the diagrams

3. Search the database on clean and available energy on the interactive map for their country and enter in Table 3. (data from 2000. to 2018.)

4. Draw conclusions on changes in the use of clean energy for their country for the period from 2000. to 2018.

5. Compare the data on clean and available energy of their country with Norway or Sweden, which have the highest share of clean and available energy

(Table 4)

6. They make a model of a windmill or a more complex model of a windmill in cooperation with a teacher of technical culture (windmill with electric motor)

7. Choose a project task (possibilities of using solar energy, wind energy, hydropower according to the geographical location of a particular place or region, occupation of the future)

(see annex)

Tips for the facilitator

- 1) Teacher asks questions and tries to ask as many student possible.
- 2) Teacher introduces the lesson about Energy.
- 3) Teacher prepares assignments (worksheets - tables, graphs, questions, conclusions).
- 4) The teacher instructs students how to read diagrams, compare data in diagrams, tables, search the data on the offered website, draw conclusions, instruct in the way of creating a project task.
- 5) The teacher directs students to select relevant websites.
- 6) The teacher gives feedback on the accuracy of the completed task.

Debriefing

Students make a model of a windmill.

Students carry out a project task in their place of residence, home or school (possibilities of using solar energy, wind energy, hydropower according to the geographical location of a particular place or region, explore future occupations related to clean energy).

Follow-up/Inspiration for the future

Publication of project works and models on school websites. Collaborate with technical culture or robotics to create a more advanced windmill model that will include an electric motor or make a solar panel model to charge a simple device.

References/Further reading

Downloaded October 30th 2021.

1. <https://unstats.un.org/sdgs/report/2021/goal-07/>
2. <https://www.youtube.com/watch?v=yMB1jIGtHYE>
3. <https://sdgs.un.org/topics/energy>

4. https://trackingsdg7.esmap.org/data/files/download-documents/2021_tracking_sdg7_report.pdf
5. <https://trackingsdg7.esmap.org//>

Downloaded November 11th2021.

6. <https://www.youtube.com/watch?v=T4xKThicKaE&t=21s>

Downloaded November 5th2021.

7. <https://www.youtube.com/watch?v=cFvuwMyzviQ>
8. <https://www.youtube.com/watch?v=qeVTCe8HLio>

Downloaded November 6th2021.

9. https://meteo.hr/klima.php?section=klima_hrvatska¶m=k1_8
10. https://meteo.hr/klima.php?section=klima_pracenje¶m=klel
11. <https://www.google.com/maps/search/geografska+karta/@45.4537404,15.5301795,11z/data=!5m1!1e4>

Annex

LESSON 1.

Worksheet 1.

Table 1.: what I already know / what I have learned

Part 1.: it is done at the beginning before watching the video and reading the text

Part 2. students solve after watching the video and reading the text

terms	What I already know	What I have learned
"clean energy"		
Renewable energy sources		
Affordable energy		
Sustainable energy		

Table 1.

Text:

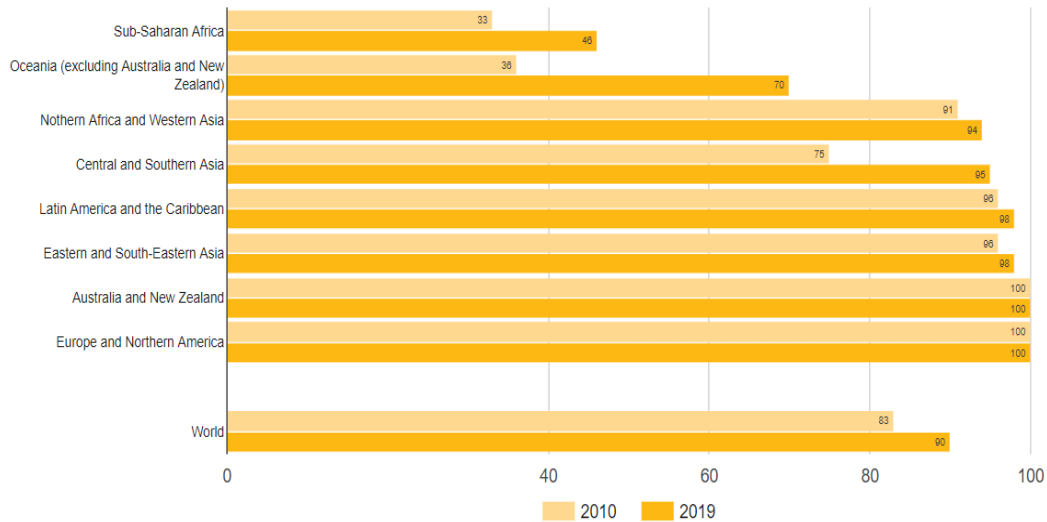
Goal 7 of sustainable development is about clean energy, which is energy that enables sustainable development because it does not harm the environment and human health. Part of the goal is to enable the availability of energy for people, the use of modern technology in energy production and reliability in energy production. Access to "clean, modern and sustainable" energy is key to improving the health and living standards of people around the world. The construction of solar power plants, wind power plants, geothermal power plants and hydroelectric power plants will enable the achievement of goal 7 by 2030. The use of renewable energy sources (Sun, water, wind, geothermal sources) requires the further development of modern technologies to ensure a still clean and healthy environment.

What does it mean to have access to affordable energy?

The heterogeneity of energy use worldwide is largely due to the state's diverse natural resources and purchasing power. For example, a country with large coal deposits is likely to make extensive use of this resource to industrialize its economy. People living in this country are likely to use it as their primary means of producing energy.

Today, approximately 2.7 billion people (about 40 percent of the world's population) rely on traditional biomass fuels for cooking. Such low quality fuels can be a major source of indoor air pollution. Even with the expansion of energy availability and economic development, the annual number of deaths from indoor air pollution will still be over 1.5 million people. If a country's level of development is low and energy production costs are high, then people will lack access to energy. In many parts of the developing world, energy sources are often scarce and their supply insecure. Today, 20% of the world's population still does not have access to electricity.

The diagram shows the access to electricity by world regions in 2010 and in 2019 in percentages. Globally, there has been a visible increase since 2010 when 83% of the world's population had access to electricity to 90% in 2019. But still in 2019, 759 million people worldwide were without electricity.



Answer the questions:

1. In which regions of the world is electricity 100% affordable?
2. In which world regions have the greatest changes in access to electricity occurred in a given period?
3. Which world region has the lowest electricity accessibility in 2019?
4. Connect the accessibility of electricity with the economic development of the area.

2. Study the given diagram and answer the questions

The chart shows billions of dollars in financial investment to developing countries to support clean and renewable energy. In 2018, a total of \$ 14 billion was invested in these purposes.

Answer the questions:

1. Does the type of financial investment in "clean" energy depend on the geographical characteristics of a developing country? Explain.
2. What is the possible reason for the constant smallest financial investments in geothermal and wind energy? Explain.
3. Can we determine the trend of further investments in clean energy from the chart? Explain.

3.a) Analyze energy data for your country and solve tasks with the help of an interactive map.

<https://trackingsdg7.esmap.org/>

Read the following data on the interactive map by selecting the data specified in the table in the menu:

Table 3.

My country	Affordable electricity	Approach to healthy cooking	Energy from renewable sources
2000.			
2018.			
Changes over a period of 18 years			

3b) Compare the same data from your country with data from Norway or Sweden, using the same interactive map.

Table 4.

Sweden or Norway	Affordable electricity	Approach to healthy cooking	Energy from renewable sources
2000.			
2018.			
Changes over a period of 18 years			

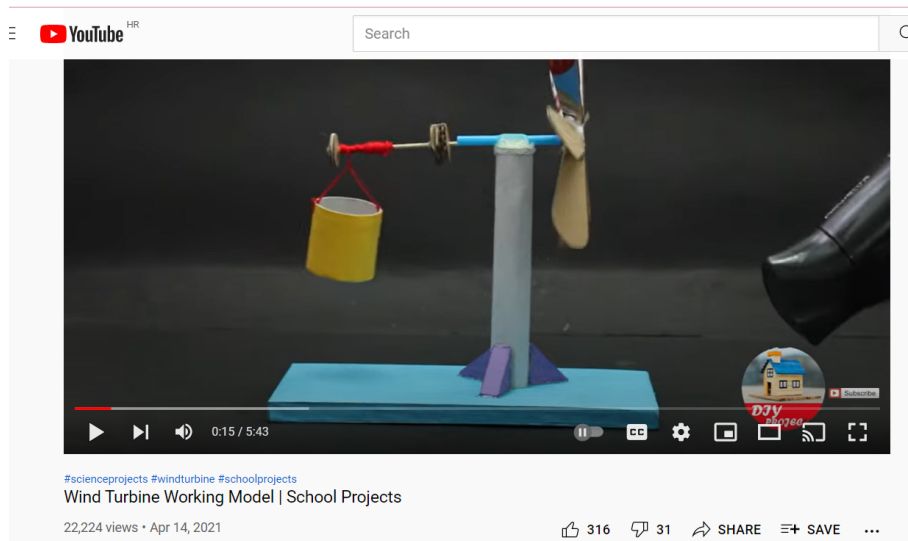
Answer the question:

Explain how we can conclude from the data from the interactive map about the economic development of a particular country?

POSSIBLE PROJECT TASKS

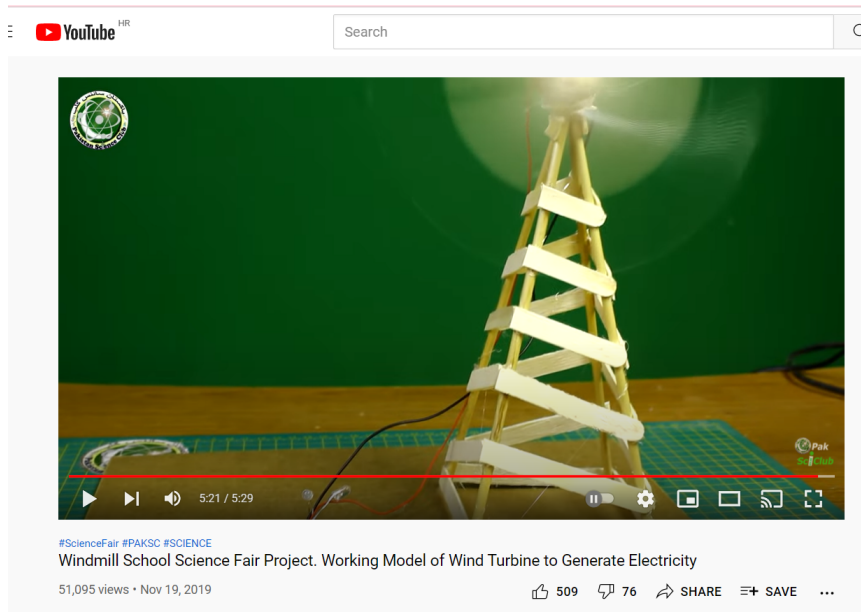
1. **Make a model of a windmill (conversion of wind energy into energy that allows the body to move).**

<https://www.youtube.com/watch?v=qeVTCe8HLio>



2. Make a model of a windmill with an electric motor (conversion of wind energy into electricity).

<https://www.youtube.com/watch?v=cFvuwMyzviQ>



3. Jobs of the future



IRENA_1_Photo_by_Spielvogel_Wikimedia_Commons_Wind_farm_near_North_Sea_coast

People of different professions are involved in decisions about the construction and construction of wind farms in an area. In addition to deciding on construction, certain occupations follow other activities. Read the tasks and imagine yourself in one of the future jobs. Write a composition of about one working day in such a workplace in the future.

a) Teacher

Teaching children what is a wind farm and a benefit to the settlement?

b) Ecologist/biologist

How do wind farms affect the environment and which crops will grow on the surface below them?

c) Specialist communication

Explain to the people in the settlement that they will benefit from wind farms.

d) Financial specialist

How much money is needed to build wind farms and how much is the profit on the obtained energy?

e) Electrical engineering

Construction and maintenance of wind farms.

f) Electronics and computing engineering

Application of modern technology in wind farm operation control.

g) Geologist/ geographer

Research of soil base and wind quantity, determination of geographical position where wind power plants will be built.

h) Medical doctor

Care for the health of all workers during construction and after the commissioning of all wind farms.

i) Economist in the municipality

Development of a time plan for the construction of wind farms, convening construction experts on agreements.

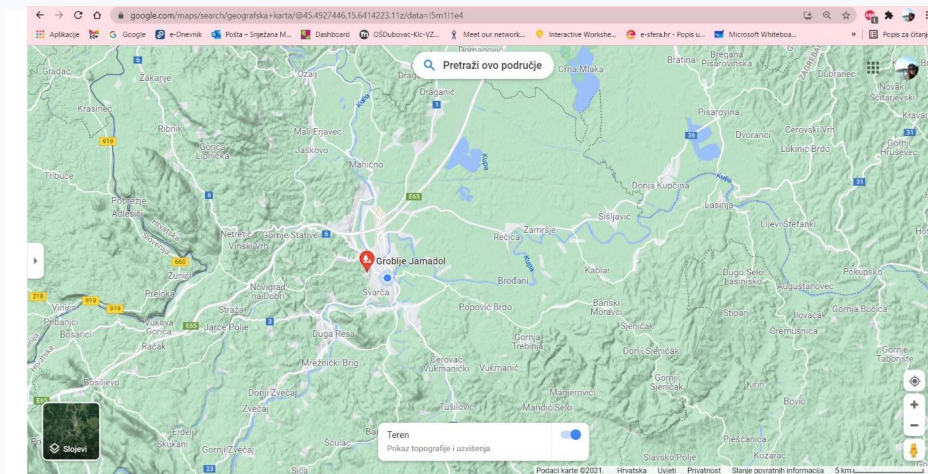
4. Investigate the geographical features of your place of residence and atmospheric factors. Based on the collected data, decide which renewable sources in your area (town, region) people can use.

Geographical location:

a) Using a geographical map, describe the geographical position of your place (elevation, slope, vegetation, climate, running water, geothermal springs).

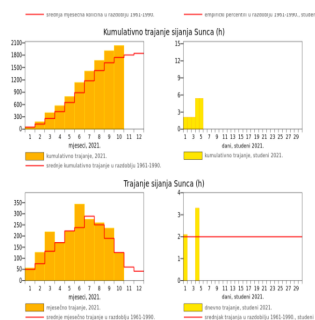
Comment on the possibility of building hydroelectric power plants, geothermal power plants.

(example Karlovac, Croatia)



b) In the data of the Meteorological Institute for your country, find data for the number of sunny days a year and comment on the profitability of investing in solar panels.

(example Karlovac, Croatia)



The screenshot shows the website of the Državni hidrometeorološki zavod (DHMZ). The navigation menu includes 'Naslovnica', 'Podaci', 'Prognoze', 'Klima', 'Infrastruktura', 'Istraživanje i suradnja', and 'Proizvodi i usluge'. A red banner at the top contains 'Upozorenja' and 'OTVORI'. Below the banner, the breadcrumb trail is 'Naslovnica > Klima > Praćenje klime'. The main content area shows a search for 'Praćenje klime' in 'Karlovac' for the month of 'studeni' in '2021'.

c) In the data of the meteorological institute for your country, find (or search for) data for the number of windy days and wind strength in the year and comment on the profitability of investments in wind farms. (example Karlovac, Croatia)

The screenshot shows the 'Atlas vjetrova' section of the DHMZ website. The main content area features a map of Croatia with a color-coded wind speed distribution. The map is titled 'Srednja godišnja brzina vjetrova (m/s) izmjerena visinom 10 m iznad tla' and includes a legend for wind speed ranges. The sidebar on the right contains navigation options for 'Klima Hrvatske', 'Opće značajke klime Hrvatske', 'Klimatske norme', 'Klimatski ekstremi', 'Karte 1931. - 1990.', 'Karte 1991. - 1999.', 'Karte 1971. - 2000.', 'Atlas vjetrova', 'Meteorološki izveštaji', and 'Digitalna klimatska karta'.

Downloaded October 30th 2021.

1. <https://unstats.un.org/sdgs/report/2021/goal-07/>
2. <https://www.youtube.com/watch?v=yMB1jGtHYE>
3. <https://sdgs.un.org/topics/energy>
4. https://trackingsdg7.esmap.org/data/files/download-documents/2021_tracking_sdg7_report.pdf
5. <https://trackingsdg7.esmap.org/>

Downloaded November 11th 2021.

- <https://www.youtube.com/watch?v=T4xkThjckKaE&t=21s>
- Downloaded November 5th 2021.
- <https://www.youtube.com/watch?v=cFvuwMyzviQ>

- <https://www.youtube.com/watch?v=qeVTCe8HLio>
- Downloaded November 6th2021

- https://meteo.hr/klima.php?section=klima_hrvatska¶m=k1_8

- https://meteo.hr/klima.php?section=klima_pracenje¶m=klel

- <https://www.google.com/maps/search/geografska+karta/@45.4537404,15.5301795,11z/data=!5m1!1e4>

Activity 2

Learning Tool Code	Title
SDG7-SDGfP	Energy types and ecological footprint
Objectives	
<ul style="list-style-type: none"> - Students will learn to distinguish between renewable and non-renewable sources; - Students explore global problems (using deep understanding and different values and worldviews); - Students work goal-directed; - Students improve cooperation and presentation skills; - Students are able to make smart and informed decisions; - Students respond positively towards achieving SDG7; - Students share openly their opinions and beliefs in class; 	
Activity details	
<ul style="list-style-type: none"> ● Material - see annex ● Duration – 2 h 10 min ● Group number – 4 groups, 4-5 students each (7TH grade, age 13-14) 	
Instructions	
<p>Lesson one (30 min)</p> <p>The teacher begins the lesson by asking students different questions.</p> <p><i>What types of energy do you know?</i></p> <p><i>What types of energy do you use at home?</i></p> <p><i>What types of energy do you think is used in your school? Are they renewable or not?</i></p> <p><i>What is renewable energy?</i></p> <p><i>How many different types of renewable energy are there?</i></p> <p><i>How can renewable energy benefit the environment?</i></p> <p>The teacher asks as many students possible and writes their answers on the board.</p> <p>The teacher plays different short videos to the students about different renewable energy resources. (links in references)</p> <p>Lesson two (1 hour)</p> <p>The teacher divides students into 4 groups.</p>	

Group one – wave energy

Group two – wind energy

Group three – solar energy

Group four – geothermal energy

Each group has time to discuss the pros and cons on each energy resource. After the groups discuss they present their findings in front of the whole class.

Lesson three (40 min)

The teacher asks the students if they know the term "ecological footprint" and its meaning. If the students are unsure the teacher gives an explanation or plays a short video. After that the teacher shows students the following website

<https://data.footprintnetwork.org/#/>. The teacher asks different students to:

- find the ecological footprint per person in their country
- compare today's footprint to the footprint in the years they were born and discuss the changes
- compare today's footprint of their country with today's footprint of countries from three different continents discuss the differences.

Tips for the facilitator

- 1) The teacher asks questions on types of energy, what they use at home, etc...
- 2) The teacher shows short videos on renewable energy and divides students into groups
- 3) The teacher explains about ecological footprint and asks students to do a research and answer questions

Debriefing

Students can present their group findings in a form of a PowerPoint presentation or create a Story Jumper book.

Follow-up/Inspiration for the future

As a homework or additional activity, the educator can assign the students to follow the changes on the website <https://data.footprintnetwork.org/#/> and write a short essay on how to reduce our "ecological footprint".

References/Further reading

References/Further reading

https://www.youtube.com/watch?v=8miW/W2QyN_4&ab_channel=OurFuture.Energy

https://www.youtube.com/watch?v=BrDua3j1U3M&ab_channel=AdamDanyal

https://www.youtube.com/watch?v=xy9nj94xvKA&ab_channel=TED-Ed

https://www.youtube.com/watch?v=b7_ix42ghCQ&ab_channel=BongBajo

https://www.youtube.com/watch?v=sZuc4LMtHoY&ab_channel=Xiaflame

https://www.youtube.com/watch?v=HciKU63dLtA&ab_channel=SolarBuddy

https://www.youtube.com/watch?v=xKxrkht7CpY&ab_channel=TED-Ed

https://www.youtube.com/watch?v=y_ZGBhy48YI&t=6s&ab_channel=U.S.DepartmentofEnergy

Annex

Sustainable Development Goal 8

Decent Work and Economic Growth

SDG 8

Sustainable Development Goal 8 is about “decent work and economic growth” and is one of the 17 Sustainable Development Goals which were established by the United Nations General Assembly in 2015. The full title is to: “Foster sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” Progress towards targets will be measured, monitored and evaluated by 17 indicators.



The Targets

SDG 8 has twelve targets in total to be achieved by 2030. Target 8.1: Sustainable economic growth

Target 8.2: Diversify, innovate and upgrade for economic productivity

Target 8.3: Promote policies to support job creation and growing enterprises

Target 8.4: Improve resource efficiency in consumption and production

Target 8.5: Full employment and decent work with equal pay

Target 8.6: Promote youth employment, education and training

Target 8.7: End modern slavery, trafficking, and child labour

Target 8.8: Protect labour rights and promote safe working environments

Target 8.9: Promote beneficial and sustainable tourism

Target 8.10: Universal access to banking, insurance and financial services

Target 8.a: Increase aid for trade support

Target 8.b: Develop a global youth employment strategy

Why is it important?

While developing countries have grown at a rate faster than developed regions, sustained economic growth everywhere is critical to fulfilling the international developmental targets over the next years. Economic growth – making our world more prosperous – is inextricably linked to all our priorities. Stronger economies will afford more opportunities to build a more resilient and sustainable world. And economic growth must be inclusive: growth that does not improve the wellbeing of all sections of society, especially the most vulnerable, is unequal and unfair.

This goal aims at ensuring the economic sector of every country provides the necessary need for its citizen to have a good life irrespective of their background, race or culture. Roughly half the world's population still lives on the equivalent of about US\$2 a day. In many places, having a job does not guarantee the ability to escape from poverty. This slow and uneven progress could

require everyone to rethink and retool the economic and social policies aimed at eradicating poverty.

For close to three decades, the number of workers living in extreme poverty has reduced drastically. This is despite the lasting impact of the 2008 economic crisis and global recession. In developing countries, 34 per cent of total employments were for the middle class, a number that has increased rapidly between 1991 and 2015. In spite of that, the global economy continues to recover; the world is seeing slower growth and inequalities widened.

SDG 8 aims at fostering sustainable and equitable economic growth for all workers, irrespective of their background, race or gender. This means achieving “higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors”.

The Challenge

Inclusive and sustainable economic growth, technology, and structural transformation are critical and must be guided by an overall strategic direction. This maybe more crucial than ever, in view of the unprecedented impacts of new technology clusters on all SDG areas and particularly on the future of work and global growth. High levels of inequalities continue as major obstacles to SDG 8 progress.

Achieving many of the other SDGs depends on progress under the SDG 8 targets.

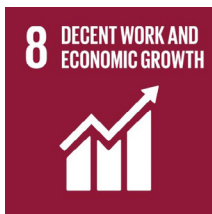
Mobilizing the policy priorities, instruments, partnerships and resources that SDG 8-related interventions can bring is therefore crucial for ending all forms of poverty and reducing inequalities, while ensuring that no one is left behind. Furthermore, progress towards SDG 8 alone “means nothing”, if it allows environmental degradation and social exclusion.

How can we address this?

‘No one left behind’ is at the core of the sustainable development agenda for 2030 and if economic growth is to build a fairer world, it must be inclusive. This is the idea behind Goal 8, which aims to sustain an economic growth rate of 7% for the least developed countries by 2030, and achieve full and productive employment for all men and women everywhere in the next years. Human and labour rights, freedom of association and collective bargaining and social dialogue are not only essential ingredients for sustainable economic growth but are the pillars of democracy-building. Building and fortifying democratic processes is in turn the cornerstone of just development.

Links to other SDGs

The attainment of SDG 8 is vested on the success and progress of other SDGs. There cannot be growth in the economy of any country if its citizens are not well educated. Therefore, SDG 8; Decent Work and Economic Growth interlinks with Quality Education (SDG 4), Gender Equality (SDG 5) for equal work opportunities. There are also strong ties with Industry, Innovation and Infrastructure (SDG 9) and Responsible consumption and production (SDG 12).



Developing the introduction

Overall Aim of Sustainable Development Goal 8: Decent work and economic growth

Sustainable Development Goal 8 No Decent work and economic growth, is one of the 17 Sustainable Development Goals established by the United Nations in 2015.

The SDGs promote sustained economic growth, higher levels of productivity and technological innovation. Encouraging entrepreneurship and job creation are key to this, as are effective measures to eradicate forced labour, slavery and human trafficking. With these targets in mind, the goal is to achieve full and productive employment, and decent work, for all women and men by 2030.

Goal 8 has following targets:

- 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries
- 8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors
- 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services
- 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
- 8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

- **8.6** By 2020, substantially reduce the proportion of youth not in employment, education or training
- **8.7** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms
- **8.8** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
- **8.9** By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
- **8.10** Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all
- **8.A** Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries
- **8.B** By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labor Organization

Why is it important for educational community?

One of the key benefits of learning about the SDGs is that it opens students' minds to different communities and experiences outside of their own. This helps the development of students into more well-rounded citizens of the world and shows them the ways in which they can make a difference in the future.

Society benefits when more people are being productive and contributing to their country's growth. Productive employment and "decent work" are key elements to achieving fair globalization and poverty reduction. In addition, unemployment can lead to unrest and disrupt peace if it is left unaddressed.

Key dimensions of Sustainable Development 8: Decent work and economic growth

The 8th Sustainable Development Goal (SDG8) aims at ensuring inclusive and sustainable economic growth around the world, notably by:

- achieving full employment, decent and productive work for all, and equal pay for equal work by 2030
- ending forced labour and child labour by 2025 and address informal work, to which women and children are the most exposed
- supporting investment, entrepreneurship, and innovation to boost job creation

According to the UN, nearly 2.2 billion people live below the poverty line and it always becomes harder to find decent jobs. Globally, 200 million people are unemployed and 1.4 billion people are in vulnerable jobs, with 783 million who are working poor. The global gender pay gap stands at 23% and, without significant efforts, it will take another 68 years to achieve equal pay. Additionally, informal work, associated with poor employment conditions, is often the norm when it comes to employment in partner countries and remains an important challenge to address.

How many people are unemployed today?

The Covid-19 pandemic will have a devastating effect on world unemployment. The International Labor Organization estimated that working hours could be reduced by 14% in the second half of 2020. Possible increase in unemployment after 2020. it will depend on the efforts of individual countries to preserve jobs through the measures they implement. The world is facing a recession that is more severe than the one that hit the world in 2009.

More than one in six young people have stopped working since the Covid-19 pandemic, and those who managed to keep their jobs have fallen by 23%.

Of all the branches of the economy, tourism is the most affected by the world's pandemic due to border closures, travel bans and epidemiological measures. International travel could be reduced by 60-80% in 2020. in relation to 2019.

The Covid-19 pandemic hit 1.6 trillion workers in the informal economy hard. Many of them cannot rely on savings. For them Covid- 19 crisis and staying home due to epidemiological measures means job loss.

What can we do to improve the situation?

Provide young people with education and development of skills that meet the requirements of the labor market. Provide them with adequate health care and a safe working environment (protection at the workplace). Young people should be provided with productive employment, regardless of their gender and income level. States should support the development of sustainable and innovative economies, which would put man at the center. Also, special attention should be paid to the employment of young people and the empowerment of women in the economy.

The interplay between Sustainable Development Goal 8. and the acquisition of 21st century skills

21st Century skills are 12 abilities that today's students need to succeed in their careers during the Information Age.

The twelve 21st Century skills are:

1. Critical thinking
2. Creativity
3. Collaboration
4. Communication
5. Information literacy
6. Media literacy
7. Technology literacy
8. Flexibility
9. Leadership
10. Initiative
11. Productivity
12. Social skills

These skills are intended to help students keep up with the lightning-pace of today's modern markets. Each skill is unique in how it helps students, but they all have one quality in common. They're essential in the age of the Internet.

Each 21st Century skill is broken into one of three categories:

1. Learning skills
2. Literacy skills

3. Life skills

Learning skills (the four C's) teaches students about the mental processes required to adapt and improve upon a modern work environment.

Literacy skills (IMT) focuses on how students can discern facts, publishing outlets, and the technology behind them. There's a strong focus on determining trustworthy sources and information to separate it from the misinformation that floods the Internet.

Life skills (FLIPS) look at intangible elements of a student's everyday life. These intangibles focus on both personal and professional qualities.

Activity 1

Learning Tool Code	Title
SDG8-SDGfP	Decent work and economic growth
Objectives	
<ol style="list-style-type: none"> 1. the student understands and explains the term "decent work" 2. the student understands what the term economic growth means 3. the student explains the concept of recession 4. the student notices the connection between the concept of recession and the world pandemic covid 19 5. the student suggests possible measures of recovery from the crisis 6. the student learns to cooperate in a team 7. the student applies critical thinking and problem solving 8. the student develops a positive attitude towards learning new content (Sustainable Development) 	
Activity details	
<ul style="list-style-type: none"> - materials - in the attachment - duration of activities -90 min - a group of 20- 25 students 	
Instructions	
<p>Activity 1. (20 min)</p> <p>a) students answer the questions:</p> <ul style="list-style-type: none"> - What does it mean when a person is said to have a "decent" job? - What does it mean when a state or a person has a good standard of living? - What does the economic growth of a country mean? <p>b) The students tried to give their answers to the questions asked. After that, the teacher plays a short video, which explains what the term "decent work" means and how it is related to the goals of Sustainable Development.</p> <p style="text-align: center;">https://youtu.be/mZpyJwevPqc</p> <ul style="list-style-type: none"> - What enables good economic growth for the inhabitants of a country? - Why is it important for people to have a decent job? 	

Activity 2. (50 min)

Students read a text from the Annex, and then watch another video that explains the similarities and differences between the Great Recession that hit the world in 2008. And the Covid-19 pandemic of 2019. After reading the text and watching the video, they will be able to answer the following questions:

<https://www.youtube.com/watch?v=feOwzi5EKa4&t=102s>

- Explain the term world pandemic?
- list some other world pandemics that you learned about in school?
- Give some examples of how the Covid 19 pandemic led to job losses?
- Which gender was more affected by the Covid-19 pandemic and why?
- Which branch of the economy suffers the most from the Covid crisis and why?

Activity 3. (10 min)

Students will solve a short quiz at the end. The goal of the quiz is to determine how the students understood and mastered the outcomes of today's hour. In the quiz, students must connect the term with an exact explanation of the same.

<https://learningapps.org/display?v=pckmtz44c21>

Tips for the facilitator

- the teacher asks questions and tries to involve as many students as possible in the answer
- after the students independently study the working material from the attachment, they try to play a game, which asks them for the answers that were in the working materials
- the teacher has the role of helper, leader, and guides students when they need help

Debriefing

Students present the results of their research to the whole class, read the answers from their questionnaires and further explain them.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://youtu.be/mZpyJwevPqc>

<https://www.youtube.com/watch?v=feOwzi5EKa4&t=102s>

<https://learningapps.org/display?v=pckmtz44c21>

Annex

Questionnaire

1. Explain the term world pandemic?

2. List some other world pandemics that you learned about in school?

3. Give some examples of how the Covid 19 pandemic led to job losses.

4. Which gender was more affected by the Covid-19 pandemic and why?

5. Which branch of the economy suffers the most from the Covid crisis and why?

DECENT WORK AND ECONOMIC GROWTH

Goal 8 Sustainable Development aims to:

- promote sustainable economic growth, employment, and decent work for every human being

What does sustainable economic growth mean?

Sustainable economic growth leads to progress, job creation and improved living standards. Even before the start of the Covid-19 global pandemic, one in five countries with billions of people living in poverty was expected to see a drop in per capita income in 2020. Financial shocks caused by the pandemic, disruption of industrial production and general uncertainty, have thrown off the already lukewarm and weak economic growth. The International Monetary Fund has predicted that due to the Covid-19 crisis, the world will be hit by a recession higher than in 2008. which is known as the Great Recession.

That crisis was a crisis of banking and money. It started in the USA and was caused by a rapid fall in real estate prices, which developed on an unrealistic scale after a long period of growth. An increasing number of people were unable to repay the installments of loans they took out for real estate, partly due to rising interest rates and partly because banks gave loans to people who had less opportunity to repay the loan (lower credit rating).

What does "decent work" mean?

We use the term to give all people a chance at a job that is productive and earns an individual. It also implies that the workplace is safe to work. Decent work means the opportunity to learn and progress, the opportunity to advance, but also the social protection of the individual and his family.

What does the term pandemic mean?

The spread of a disease to large areas, is to several countries, the whole continent or the world. There have been pandemics of plague and cholera in the past, followed by the flu. From epidemics in the 20th century the deadliest was the so-called pandemic. Spanish flu 1918-19 which infected about 500 million people and almost all parts of the world, and killed 17 to 50 million, according to some up to 100 million. It was called Spanish because the press in neutral Spain was not subject to censorship (unlike in the countries participating in the First World War), so it was free to report on the epidemic, which gave the impression that Spain was particularly affected.

In the 20th century, the World Health Organization declared pandemics of the so-called swine flu (2009) and Covid-19 diseases (2020). The term pandemic is commonly used for infectious diseases.

How many people are unemployed today?

The Covid-19 pandemic will have a devastating effect on world unemployment. The International Labor Organization estimated that working hours could be reduced by 14% in the second half of 2020. Possible increase in unemployment after 2020. it will depend on

the efforts of individual countries to preserve jobs through the measures they implement. The world is facing a recession that is more severe than the one that hit the world in 2009. More than one in six young people have stopped working since the Covid-19 pandemic, and those who managed to keep their jobs have fallen by 23%.

Of all the branches of the economy, tourism is the most affected by the world's pandemic due to border closures, travel bans and epidemiological measures. International travel could be reduced by 60-80% in 2020. in relation to 2019.

The Covid-19 pandemic hit 1.6 trillion workers in the informal economy hard. Many of them cannot rely on savings. For them Covid- 19 crisis and staying home due to epidemiological measures means job loss.

What can we do to improve the situation? Provide young people with education and development of skills that meet the requirements of the labor market. Provide them with adequate health care and a safe working environment (protection at the workplace). Young people should be provided with productive employment, regardless of their gender and income level. States should support the development of sustainable and innovative economies, which would put man at the center. Also, special attention should be paid to the employment of young people and the empowerment of women in the economy.

- Income per capita - average income (earnings, amount of money) earned per person in a given area each year
- Recession - a phase of decline within the business cycle in which there is a general decline in economic activity. It is accompanied by a general deterioration of the economic climate (decline in real income, rising unemployment, low utilization of production capacity ...)
- International Monetary Fund - an international agency within the United Nations, which aims to ensure a stable financial system and international payment system
- Informal economy - a set of different jobs, workers and companies that are not controlled (not taxed) by the state, but which are not even under state protection. The term can also refer to self-employment in unregistered companies.

Activity 2

Learning Tool Code	Title
SDG8-SDGfP	Decent work
Objectives	
<ul style="list-style-type: none"> - Students understand what decent work means; - Self-regulation in social behaviour; - Empathy and ability to care for others; - To learn from others and contribute to other people's learning; - Ability to raise innovative ideas and non-traditional solutions; - Apply critical thinking and problem solving to evaluate different sources of information and arguments relevant to SDG8; - Respond positively towards achieving SDG8; 	
Activity details	
<ul style="list-style-type: none"> ● Material – see annex ● Duration – 2 h 30 min ● Group number 15-20 students few groups 4-5 students (6TH grade, age 12-13) 	
Instructions	
<p>Lesson one (30 min)</p> <p>The teacher explains to the students about Goal 8 of the goals for sustainable development (a short video can also be shown, a link in the references) and for the whole purpose and continues to ask students different questions.</p> <p><i>What is a job?</i></p> <p><i>Why do people need jobs?</i></p> <p><i>How do you understand the term "decent work"?</i></p> <p><i>What do you consider to be a good workplace?</i></p> <p>The teacher asks as many students as possible and students share different opinions.</p> <p>Lesson two (2h)</p> <p>First activity (1h)</p> <p>The teacher asks the students to think about <i>What makes one job decent?</i> The teacher leaves the students to think and then asks few students to share their opinions. After the discussion is over, the teacher divides the students into pairs and gives each pair a piece of paper (see annex) with statements describing different</p>	

scenarios and a few questions to consider and discuss with their partner. For each scenario, students should discuss:

Are these jobs decent?

What do you like?

What would change?

Which of these jobs would you choose?

After talking to their partners, the class discusses:

Have you ever heard of such situations?

Do you think these situations are fair?

How can such situations affect people?

Second activity (1h)

The teacher asks the students *What is an entrepreneur?*

(for this part of the lesson it is necessary for the teacher to be prepared in advance to explain to the students what is entrepreneurship and entrepreneur)

After the teacher explains to the students about the entrepreneur, he / she continues with the work instructions. The teacher divides the students into several groups and each group has a task.

1. To think about the skills and qualities that a person needs to have to be successful.
2. On a piece of paper each group should write 5 sentences starting with the sentence "A successful entrepreneur is someone who ..."

Students talk to their groups and later share their findings with the whole class. Findings can be presented in the form of a PowerPoint presentation or video for StoryJump.

Tips for the facilitator

- 1) The teacher explains Objective 8 or shows a short video.
- 2) The teacher asks as many students as possible.
- 3) The teacher distributes script sheets and asks questions to create a discussion.
- 4) The teacher divides the students into groups and gives them an assignment.

Debriefing

Findings can be presented in a form of PowerPoint presentation or a StoryJump video.

Follow-up/Inspiration for the future

Students can make a short questionnaire and conduct a short anonymous survey of parents' working conditions (the survey can also be in an electronic form (e.g. Google form)). They can then summarize the results obtained in the form of a PowerPoint presentation.

References/Further reading

https://www.youtube.com/watch?v=xcZamDv2DZQ&ab_channel=Participate

<https://www.globalgoals.org/goals/8-decent-work-and-economic-growth/>

<https://www.investopedia.com/terms/e/entrepreneur.asp>

Annex

Lesson two - Activity one

Job descriptions

Read the job descriptions and think about:

Are these jobs decent?

What do you like?

What would change?

Which of these jobs would you choose?

Maria works at a place where she is paid by the hour. She has no full-time contract; sometimes she is required to work 10 hours a week, sometimes 40 hours a week. When she gets sick, she does not receive a sick pay.

Alexander's salary is very good, but he has to work very long hours - often late at night and on weekends. Some weeks, he accumulates more than 80 hours of work per week. He can not spend much time with his wife and children.

Peter is often asked to do tasks that are too difficult - he does not have the necessary skills to complete these tasks well and has not received proper training.

Anna does not get paid as much as some of her friends, but she enjoys the job. It's important to her because she can help other people in her community. She believes this is an important thing.

Sustainable Development Goal 9

Industry, Innovation and Infrastructure

Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation

Inclusive and sustainable industrialization, together with innovation and infrastructure, can unleash dynamic and competitive economic forces that generate employment and income. They play a key role in introducing and promoting new technologies, facilitating international trade and enabling the efficient use of resources.

Innovation and technological progress are key to finding lasting solutions to both economic and environmental challenges, such as increased resource and energy-efficiency.

In terms of communications infrastructure, more than half of the world's population is now online and almost the entire world population lives in an area covered by a mobile network.

Goal 9 targets:

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

9.A Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States

9.B Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

9.C Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020



Why it matters

What's the goal here?

To build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Why?

Economic growth, social development and climate action are heavily dependent on investments in infrastructure, sustainable industrial development and technological progress.

So what's the problem?

Even before the outbreak of the COVID-19 pandemic, global manufacturing has been steadily declining due to tariffs and trade tensions.

Basic infrastructure like roads, information and communication technologies, sanitation, electrical power and water remains scarce in many developing countries.

Why should I care?

Inclusive and sustainable industrialization, together with innovation and infrastructure, can unleash dynamic and competitive economic forces that generate employment and income.

How can we help?

Think about how industry impacts on your life and well-being and use social media to push for policymakers to prioritize the SDGs.



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

INDUSTRY, INNOVATION AND INFRASTRUCTURE: WHY IT MATTERS

What's the goal here?
To build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Why?
Economic growth, social development and climate action are heavily dependent on investments in infrastructure, sustainable industrial development and technological progress. In the face of a rapidly changing global economic landscape and increasing inequalities, sustained growth must include industrialization that first of all, makes opportunities accessible to all people, and second, is supported by innovation and resilient infrastructure.

So what's the problem?
Even before the outbreak of the COVID-19 pandemic,

Just **54%** of the global population use the Internet. In the least developed countries only **19%** have online access

global manufacturing – considered an engine of overall economic growth – has been steadily declining due to tariffs and trade tensions. The manufacturing decline caused by the pandemic has further caused serious impacts on the global economy. In addition, the airport industry, also an important driver of economic development, faced the steepest decline in its history in the first five months of 2020, with a 51 per cent drop in airline passengers due to the global lockdowns.

Basic infrastructure like roads, information and communication technologies, sanitation, electrical power and water remains scarce in many developing countries. In 2019, some 87 per cent of people in developed countries used the Internet, compared with just 19 per cent in the least developed countries.

How much progress have we made?
Investment in research and development globally – as well as financing for economic infrastructure in developing countries – has increased, and impressive progress has been made in mobile connectivity with almost the entire world population (97 per cent) living within reach of a mobile cellular signal.

Why should I care?
Inclusive and sustainable industrialization, together with innovation and infrastructure, can unleash dynamic and competitive economic forces that generate employment and income. They play a key role in introducing and promoting new technologies, facilitating international trade and enabling the efficient use of resources.

The growth of new industries means improvement in the standard of living for many of us. If industries pursue sustainability, this approach will have a positive effect on the environment.

What is the price of inaction?
The price is steep. Ending poverty would be more difficult, given the industry's role as a core driver of the global development agenda to eradicate poverty and advance sustainable development. Additionally, failing to improve infrastructure and promote technological innovation could translate into poor health care, inadequate sanitation and limited access to education.

How can we help?
Establish standards and promote regulations that ensure company projects and initiatives are sustainably managed. Collaborate with NGOs and the public sector to help promote sustainable growth within developing countries.

Think about how industry impacts on your life and well-being and use social media to push for policymakers to prioritize the SDGs.

To find out more about Goal #9 and other Sustainable Development Goals, visit:
<http://www.un.org/sustainabledevelopment>

SUSTAINABLE DEVELOPMENT GOALS

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

BEFORE COVID-19

MANUFACTURING GROWTH WAS DECLINING

DUO TO TARIFFS AND TRADE TENSIONS

COVID-19 IMPLICATIONS

THE AVIATION INDUSTRY HAS SUFFERED THE STEEPEST DECLINE IN HISTORY

AIR PASSENGER NUMBERS FELL BY 51% FROM JANUARY TO MAY 2020 (COMPARED TO THE SAME PERIOD)

FINANCING FOR SMALL-SCALE INDUSTRIES IS NEEDED FOR THEIR SURVIVAL THROUGH THE CRISIS

ONLY 35% HAVE ACCESS TO CREDIT IN DEVELOPING COUNTRIES (2019)

INVESTMENT IN R&D IS GROWING BUT NEEDS TO ACCELERATE

\$1.4 TRILLION (2019)

\$2.2 TRILLION (2020)

FEWER THAN 1 IN 5 PEOPLE USE THE INTERNET IN LDCs (2019)

SUSTAINABLE DEVELOPMENT GOALS

ACCESS MORE DATA AND INFORMATION ON THE INDICATORS AT [HTTPS://DATA.UN.ORG/SDG/REPORT/2020/](https://data.un.org/SDG/REPORT/2020/)

<https://www.un.org/sustainabledevelopment/infrastructure-industrialization/>

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/9_Why-It-Matters-2020.pdf

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infographic_09.pdf



Developing the introduction

Overall Aim of Sustainable Development Goal 9: Industry, Innovation and Infrastructure

The overall goal of SDG 9 is to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. SDG 9 specifically states that “Inclusive and sustainable industrialization, together with innovation and infrastructure, can unleash dynamic and competitive economic forces that generate employment and income. They play a key role in introducing and promoting new technologies, facilitating international trade and enabling the efficient use of resources”.

Its eight targets are as following:

9.1

Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

9.2

Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.

9.3

Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

9.4

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

9.5

Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

9.a

Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.

9.b

Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

9.c

Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.

<https://sdgs.un.org/goals/goal9>

Why is it important for educational community?

As mentioned, SDG 9 focuses on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. It is extremely important to understand the role infrastructure plays in people's everyday lives. Only after assessing the current state of infrastructure can we move on to ways of improving it.

SDG 9 is important to educational community because it teaches students to comprehend initiatives designed on a global level and then apply them to their own community. Teaching SDG 9 can have an impact on students' decision making process and help prepare them for making a positive impacting starting on the local level of their own community or hometown.

Key dimensions of Sustainable Development Goal 9: Industry, Innovation and Infrastructure

Seeing as investments in infrastructure, sustainable industrial development and technological progress directly affect economic growth, social development and climate action, it is imperative that we establish standards and promote regulations that ensure company projects and initiatives are sustainably managed.

Innovation and resilient infrastructure, together with opportunities equally available to people from all walks of life must be made available through industrialization and sustained economic growth.

Global manufacturing is experiencing a sharp decline in recent years, and with it the economic growth is also stifled. A dynamic and competitive economy that generates employment and income needs inclusive and sustainable industrialization, together with innovation and infrastructure.

The growth of new industries means improvement in the standard of living for everyone involved, none more so than people living in developing countries across the world. Basic infrastructure like roads, information and communication technologies, sanitation, electrical power and water remains scarce in many developing countries. In 2019, some 87 per cent of people in developed countries used the Internet, compared with just 19 per cent in the least developed countries.

Industry is the main component that drives sustainable development and as such is critical in ending poverty. In addition, quality health care and sanitation, coupled with a better access to education are directly impacted by improved infrastructure and technological innovation. Collaboration with NGOs and the public sector are necessary in order to help promote sustainable growth within developing countries.

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/9_Why-It-Matters-2020.pdf

The interplay between Sustainable Development Goal 9 and the acquisition of 21st century skills

In this day and age, information literacy is becoming one of the essential skills a student should possess. Independently and freely accessing information, evaluating sources, using information effectively and incorporating it into and building upon existing knowledge should be of the paramount importance for teachers and students alike.

Both students and teachers would also be well advised to learn how to adapt to quickly changing situations in today's society. This includes both the development of critical thinking and a certain amount of creativity on their part.

It is also vital to connect theoretical problem-solving scenarios with their real-world application in specific situations. Students need to be able to take with them the problem-solving skills we imprint

on them in a safe and secure environment and apply those skills later in their lives as community leaders and active contributors to the betterment of society.

Activity 1

Learning Tool Code	Title
SDGfP goal 9	Industry, Innovation and Infrastructure
Objectives	
<p>After the lesson students will be able to:</p> <ul style="list-style-type: none"> - understand the meaning of the term infrastructure - name and recognize different facilities and systems that fall under the category of infrastructure - familiarize themselves with the types of infrastructure currently present in their hometown - distinguish the pros and cons of several facilities and systems in their hometown - apply critical thinking to offer suggestions on how to improve their hometown infrastructure - draw parallels and respond positively to the targets and indicators set by the SDGfP goal 9 	
Activity details	
<p>Materials → see Annex</p> <p>Duration: 180 – 225 minutes</p> <p>Class size: 20 – 28 students (6th grade, age 12)</p>	
Instructions	
<p>LESSON 1</p> <p>Introduction / Engaging the students (10 – 15 mins)</p> <p>The teacher starts by asking questions such as <i>How do you get to school?</i> or <i>What types of buildings do you pass on your way to school?</i> in order to motivate them so they would engage in a conversation with him/her. A follow up question may include <i>Are they mostly new or old buildings?</i></p> <p>After the first round of answers the teacher moves on to mention local places of business with questions such as <i>Are there any places of business in your area?</i> and <i>What are they?</i></p> <p>The teacher then focuses on the hometown itself with questions like <i>Do you consider your town to be well-developed or not?</i> and <i>What would you change if you could?</i></p> <p>The teacher then brings the introduction to a close by administering a blank table to the students with the instructions to answer the questions and fill out the table using the Internet:</p>	

Student name:	
What is reliable infrastructure ? Give some examples:	
What is sustainable industrialization ? Give some examples:	

Research (5 – 10 mins)

After the students finish writing in their answers, the teacher calls upon a couple of them to read what they have found. Other students can chime in with additional comments or a brief discussion.

Finally, the teacher introduces one of the goals of today's lesson by stating *Today you will make a presentation where you will act as a mayor of your hometown.*

Preparation for the assignment (15 – 20 mins)

The teacher divides the students into pairs or groups of three and gives them instructions on how a quality presentation should be made (the instructions mostly include the accepted font size, the appropriate number of rows, line spacing and the position of the text and images). The teacher also gives them some examples of the titles they should use which may include:

- *Town location*
- *Industry in my town*
- *Examples of innovation in my town*
- *How climate change affects my town*
- *Mobile network coverage*
- *What my town still needs*

The teacher lets them know their presentation should include a quiz at the end and that the best pair or group will present their work to the rest of the class two weeks after. After this the students may begin their work.

Pair / group work (45 mins)

The students use prior knowledge to come up with the ideas and build their presentation. The teacher in the meantime shifts from group to group and gives advice on how to approach a certain topic the students chose or to help build a certain slide.

The teacher takes note of the time and 5 minutes before the lesson ends reminds them to save their work so they can continue the week after.

LESSON 2**Introduction** (5 – 10 mins)

The teacher asks the students if they remember the most important topics from the week before and reminds them what they are doing and why.

The teacher then checks the pairs / groups from the previous week and lets them return to their saved work and continue with the presentation.

Pair / group work (35 mins)

The teacher again shifts from group to group and gives advice on how to fine tune the slides and put the finishing touches on the presentation.

Instructions on creating the quiz (5 – 10 mins)

The teacher asks the students if they remember how to build an interactive quiz inside a presentation and reminds them of the structure and how the slides should be arranged. The teacher also shows the students how the correct and wrong answers are linked with the corresponding slides.

Pair / group work (30 mins)

The students use prior knowledge to design the appropriate questions and the slides used for giving feedback. The teacher in the meantime shifts from group to group and gives advice on how to formulate certain questions and check if the slides are linked correctly.

Conclusion (5 mins)

The teacher takes note of the time and 5 minutes before the lesson ends reminds everyone to save their work and also determines which pair / group is the best. The pair / group in question is given additional instructions on how to deliver the presentation the week after.

LESSON 3

Introduction (5 – 10 mins)

The teacher asks the students if they remember the most important topics from the previous two weeks and reminds them that their colleagues have prepared a presentation for them. He/she instructs them to actively listen and jot down any potential question they might have.

Pair / group presentation (20 – 25 mins)

The best pair / group present their work to the rest of the class. They use the quiz at the end of a presentation as a fun way to check if their colleagues have been paying attention.

Conclusion (10 mins)

The teacher asks several students from the rest of the class to read their questions for the group. He/she also asks them to comment on the presentation and the quiz, thanks the best pair /group and reminds everyone of the most important topics they have learned in the previous three weeks.

Tips for the facilitator

The students should have prior knowledge of building a quality presentation, designing their own master slide theme and linking appropriate slides for the quiz portion of the presentation.

See Annex for further details.

Debriefing

The teacher can check how much the students remember about the topic by creating a questionnaire based on the presentation they watched. The activity can be planned for the week after the presentation, but it is completely optional.

Follow-up/Inspiration for the future

The students can use the knowledge acquired from the previous three lessons to create a poster or an infographic for their Art class.

References/Further reading

<https://www.un.org/sustainabledevelopment/infrastructure-industrialization/>

<https://unstats.un.org/sdgs/report/2019/goal-09/>

<https://sdgs.un.org/goals/goal9>

<https://en.unesco.org/sites/default/files/resources-sdq9.pdf>

Annex

Additional documents included with the lesson plan:

- Quality Presentation Reminder

Annex

Additional documents included with the lesson plan:

QUALITY PRESENTATION REMINDER

A presentation should be clear and concise, so ask yourself the following while building a slide:

- 1) **Is the font size between 24 and 28?**
 - if not, adjust it; enlarge the text if it's too small and vice versa
- 2) **Do you have between 4 and 6 rows of text?**
 - only the most important notes go on the slide; remove all non-essential lines
 - be careful: three rows or less is way too little text
- 3) **Does your slide contain images?**
 - each slide should contain between 1 and 4 images
 - be careful: images should not cover text or be too large
- 4) **Do you have any empty space on the slide?**
 - Increase line spacing to 1.5 or 2.0 and use larger text frames
 - do not use a larger font instead because the slide could become cluttered
- 5) **Did you use animations in your presentation?**
 - text is more important than images so it should appear first
 - images come with the text or after it; do not use slides with images only
 - animated images should not obstruct the text
- 6) **Do you use different slides in your presentation?**
 - the presentation will quickly become boring if you use the same slides all the time, you can change the layout of the slides so your presentation stays fresh and interesting

USUAL SLIDE LAYOUTS

We have many different ways of designing slide layouts, but they mostly concern the position of the text and images on the slide. For example, we can put the text below or above the images:



We can also position the text to the left or right of the images:



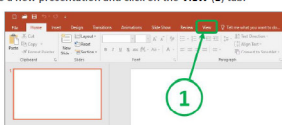
We can also use slides with two different text frames:



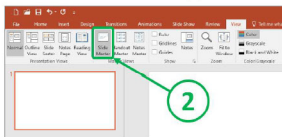
Using Slide Master

HOW TO USE SLIDE MASTER TO ADD YOUR OWN BACKGROUND

Create a new presentation and click on the **VIEW (1)** tab.

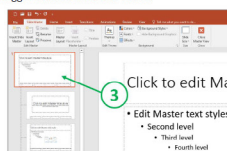


Under the **VIEW** tab click the **SLIDE MASTER (2)** button.

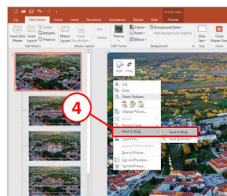


BE CAREFUL: we do not use the Slide Master to create the presentation itself. We only use it to set the background and adjust the text frames.

Click the slide on the very top of the slide panel (3). The slide in question is bigger than all the other slides.



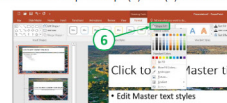
Copy and paste the image you want to use. The parts outside of the slide frame will not appear on the slide itself. Right-click the image and choose the **SEND TO BACK (4)** option to set the image as the default background.



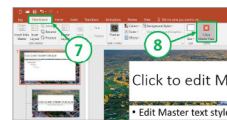
We just have to set the background color of the text frames and we're done. Click on a text frame and choose the **FORMAT (5)** tab.



Under the **FORMAT** tab click the **SHAPE FILL (6)** button and choose the color you want to use. Repeat steps (5) and (6) for other text frames.



Click on the **SLIDE MASTER (7)** tab and choose the **CLOSE MASTER VIEW (8)** button.

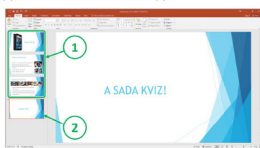


The background is all set! You may begin with building your presentation.

Creating a Quiz

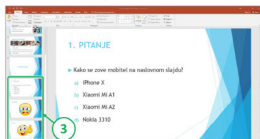
HOW TO CREATE A QUIZ

Create a new presentation and build a couple of slide with the topic of your choosing (1). Add a new title slide at the end (2).



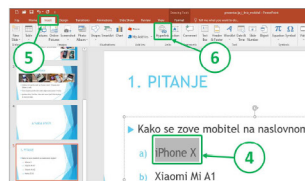
You need three slides with the following titles for each question (3):
QUESTION → WRONG → CORRECT.

Be sure to use the titles, that way it will be easier to link the slides later.

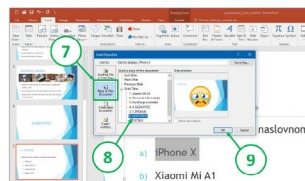


Why this particular order? The **WRONG** slide will return you to the question, while the **CORRECT** slide will allow you to proceed.

We need to link the **WRONG** and **CORRECT** answers with the corresponding slides. Select one of the **answers** (4), click the **INSERT** (5) tab and use the **HYPERLINK** (6) button:

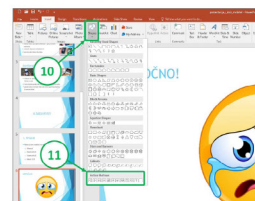


When a pop-up window appears click the **PLACE IN THIS DOCUMENT** (7) button, choose the slide you want to link it with (8) and click **OK** (9).

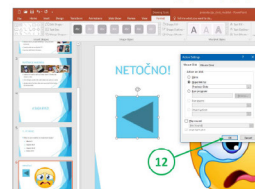


Repeat steps (4) to (9) for all the other answers.

We need to add an action button to the **WRONG** slide so the participants could return to the question. Click the **INSERT** tab and choose the **SHAPES** (10) button. Select the **BACK OR PREVIOUS** (11) action button in the bottom row:



Place the action button on the slide and click **OK** (12) in the pop-up menu:



And that's it! You can add a **THANK YOU FOR PLAYING** slide as the last one.

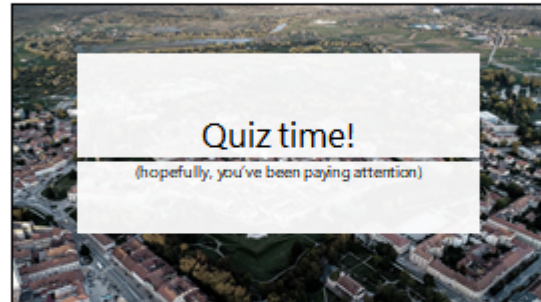
- If I were the mayor... (example presentation)

What Karlovac still needs

- even though almost every major mode of transportation runs through Karlovac, there is still room for improvement
- more frequent bus and train lines are needed, especially ones connecting rural areas with the city center

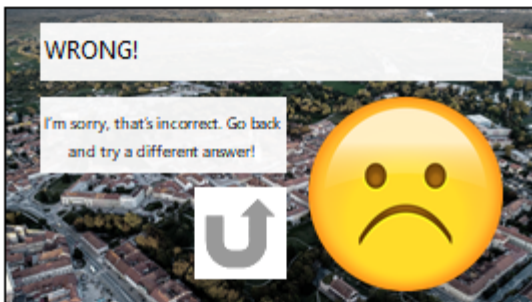


Quiz time!
(hopefully, you've been paying attention)



WRONG!

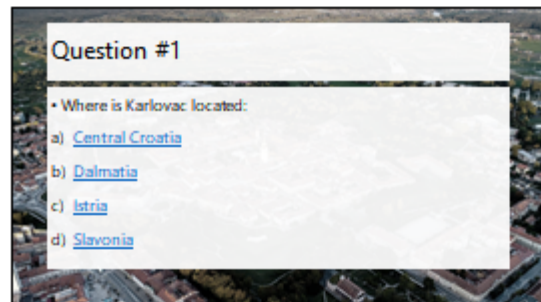
I'm sorry, that's incorrect. Go back and try a different answer!



Question #1

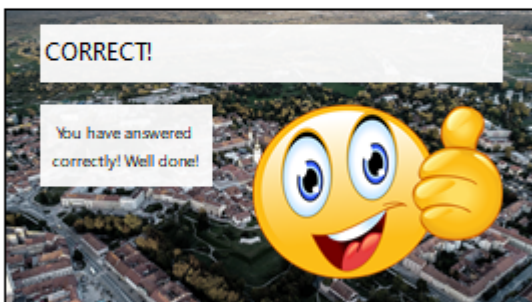
• Where is Karlovac located:

- [Central Croatia](#)
- [Dalmatia](#)
- [Istria](#)
- [Slavonia](#)



CORRECT!

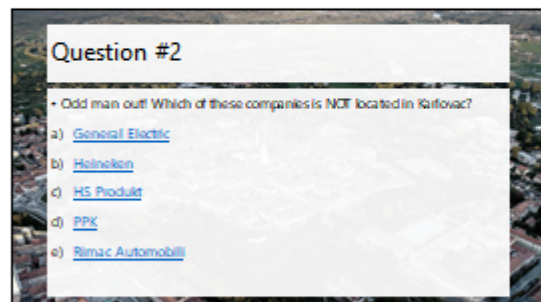
You have answered correctly! Well done!

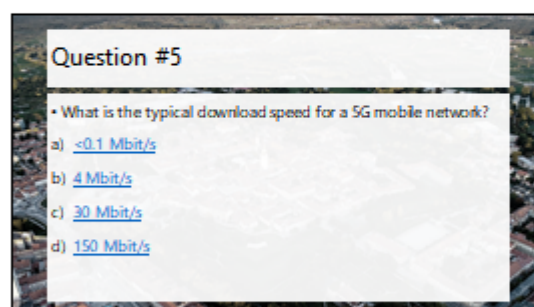
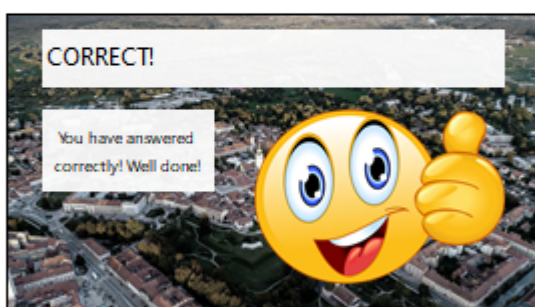
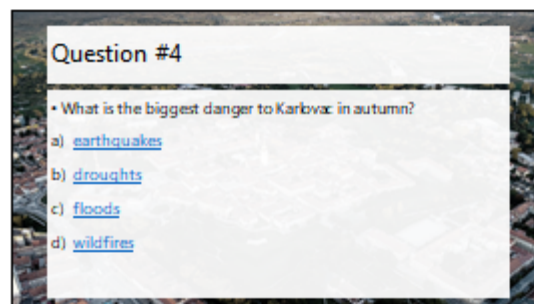
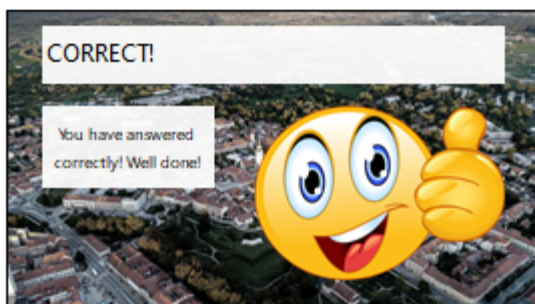
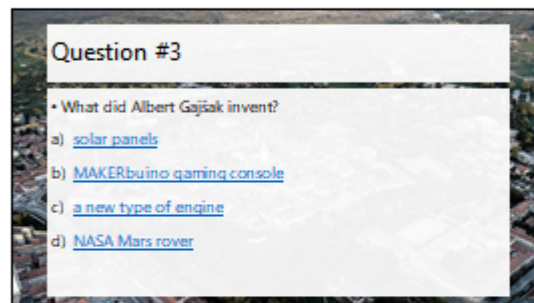
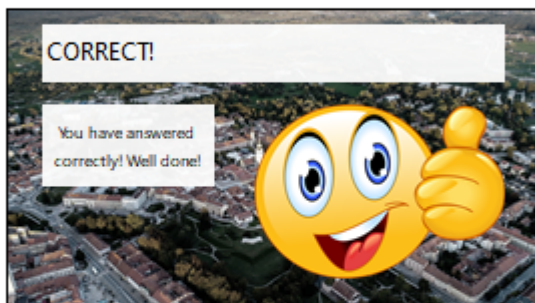


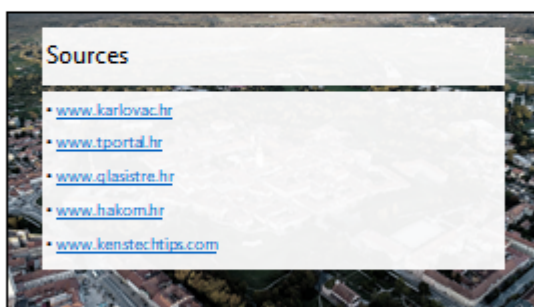
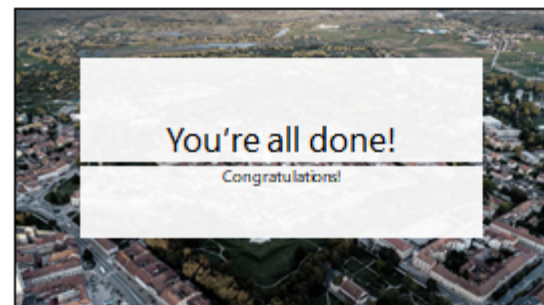
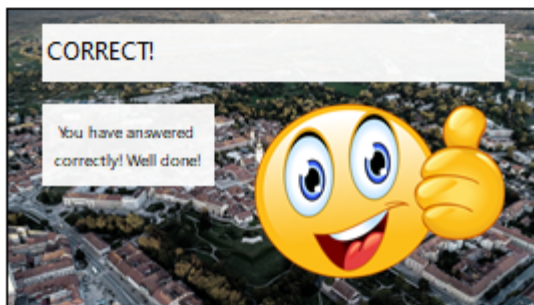
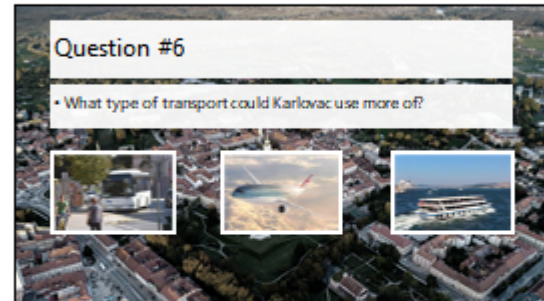
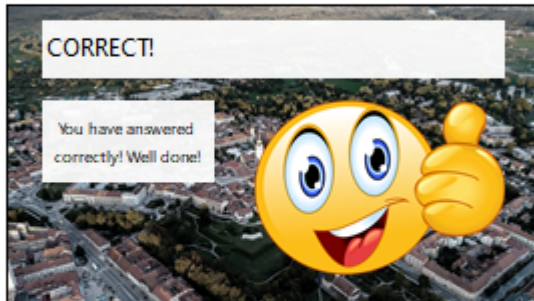
Question #2

• Odd man out! Which of these companies is NOT located in Karlovac?

- [General Electric](#)
- [Helsinki](#)
- [HS Produkt](#)
- [PPK](#)
- [Bimac Automobili](#)







Activity 2

Learning Tool Code	Title
SDG9-SDGfP	The road to school
Objectives	
<ul style="list-style-type: none"> - To learn from others and contribute to other people's learning; - Ability to raise innovative ideas and non-traditional solutions; - Apply critical thinking and problem solving to evaluate different sources of information and arguments relevant to SDG9; - Respond positively towards achieving SDG9 	
Activity details	
<p>Materials – all the necessary materials are listed in the descriptions of the activities</p> <p>Duration - 3 h 40 min</p> <p>Number of group -3-4 groups, 5-6 students each (5th grade, age 10-11 years)</p>	
Instructions	
<p>Lesson one (1 hour)</p> <p>Activity one (30 min)</p> <p>Students stand in 3 or 4 rows (5-6 students each with the navigator), as in a relay game, at one end of the classroom and hold each other around the waist or shoulders. The first student in the column wears a blindfold. Obstacles are placed in front of each column: sticks, cardboard boxes, school bags, etc. They are placed in different places, not in a straight line. Opposite to each row is their navigator who guides them between obstacles. At the teacher's signal, all the students in the column close their eyes, and one student speaks to them, for example, go two steps forward, go three steps to the right, five steps forward, one to the left, and so on. The whole point is to bring the whole row to the end while bypassing all obstacles. The group that arrives first wins and will not touch any obstacles. After two or three repetitions, the navigator changes.</p> <p>Activity two (30 min)</p> <p>After the activity is finished the teacher asks the students to think of this game as they are going to school on a foggy day. Based on that experience the teacher asks questions. Different students answer the questions and they debate and compare answers.</p>	

- *Are there many obstacles on the road you take to school every day?*
- *How would you feel if you walk to school like this every day?*
- *Do you think your path to school is easy or hard?*
- *What would you change?*

Lesson two (2h 40min)

Activity one (20 min)

The teacher starts a classroom discussion about the city they live in.

Some of the questions they ask are:

- *How many people live in your city?*
- *Is the city only for humans?*
- *What options do they have?*
- *How do they get food, water, energy, etc.?*
- *What kind of work do they have?*
- *Who is in charge? Who leads the city and makes decisions?*
- *How are peace and order kept?*
- *How are rubbish and wastewater handled?*
- *How is everyone's health ensured?*
- *What about access to education?*

The teacher encourages more students to answer the same questions and to compare answers.

Activity two (50 min)

The teacher then divides students into a few groups (5-6 students each). When the students are divided the teacher asks them to think within the group of how the city is (where are the schools, police stations, hospitals located) and to think if they are easily accessible to everybody. Then to think about the green spaces and parks in the city and if they are enough.

They also need to think of what they would change in their city if they had a chance to. Students discuss 20-30 min within the groups and when they finish each group presents their findings and ideas.

Activity three (1h 30 min)

(Students should be informed to bring different materials for the needs for this activity beforehand)

After all the presentations are finished the teacher asks the groups to create a model of a city. Each group receives a large hard paper to "build" the city on. The model would be made from different materials cardboard boxes, wood, plastics, bottle caps different types of recycled materials that they can find and use. They will draw the roads on paper and place the buildings and things made from the materials they brought. They design the city with the suggested changes they came up with in the previous activity.

Tips for the facilitator

- 1) The teacher explains the rules for the game.
- 2) The teacher asks questions and encourages a discussion.
- 3) The teacher invites the students to share the results of the group work.

Debriefing

Students explain their ideas of ideal cities after the models are made. They express what they didn't like and what changes they made in their models.

Follow-up/Inspiration for the future

Students can design posters or brochures on the topic "Make the city green". The projects can be posted around the school and school ground or shared on the schools website or social media.

References/Further reading

<https://sdgs.un.org/goals/goal9>

<https://en.unesco.org/sites/default/files/resources-sdg9.pdf>

<https://www.bookwidgets.com/blog/2019/12/10-ready-to-use-lesson-plans-on-the-sustainable-development-goals>

AnnexLesson two - Activity one
Questionnaire

QUESTIONNAIRE

- How many people live in your city?

- Is the city only for humans?

- What options do they have?

- How do they get food, water, energy, etc.?

- What kind of work do they have?

- Who is in charge? Who leads the city and makes decisions?

- How are peace and order kept?

- How are rubbish and wastewater handled?

- How is everyone's health ensured?

-
- What about access to education?

Sustainable Development Goal 10

Reduced Inequalities

SDG 10

Sustainable Development Goal 10 (SDG 10) is about reduced inequality and is one of the 17 Sustainable Development Goals established by the United Nations in 2015. The full title is: "Reduce inequality within and among countries".



The Targets

The Goal has ten targets to be achieved by 2030. Progress towards targets will be measured by indicators.

Target 10.1: Reduce income inequalities

Target 10.2: Promote universal social, economic and political inclusion

Target 10.3: Ensure equal opportunities and end discrimination

Target 10.4: Adopt fiscal and social policies that promotes equality

Target 10.5: Improved regulation of global financial markets and institutions

Target 10.6: Enhanced representation for developing countries in financial institutions

Target 10.7: Responsible and well-managed migration policies

Target 10.a: Special and differential treatment for developing countries

Target 10.b: Encourage development assistance and investment in least developed countries

Target 10.c: Reduce transaction costs for migrant remittances

Why is it important?

Inequality is a roadblock to progress when it deprives people of opportunity, and subjects many to conditions of extreme poverty. Target 10.1 is to "sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average". This goal, known as "shared prosperity", is complementing SDG 1, the eradication of extreme poverty, and it is relevant for all countries in the world.

In 73 countries during the period 2012–2017, the bottom 40 per cent of the population saw its incomes grow. Still, in all countries with data, the bottom 40 per cent of the population received less than 25 per cent of the overall income or consumption.

Inequality exist in various forms, such as economic, sex, disability, race, social inequality, and different forms of discrimination.

Issues associated with health, pollution, and environmental justices are often inseparable with inequality. Sometimes these issues also associated with indigenous and aboriginal communities, ethnic minorities and communities of low socio-economic status. Studies of environmental justice shows these communities are irregularly likely to live in environments with higher risk of exposure to pollution and toxic contamination, which possess long-term health and environmental threats.

Globalization is also accompanied with migration, displacement and dispossession, and this often increases vulnerability of marginalized communities and groups, which negatively shaped their prospects for globalization and emancipation and widened inequality at the meantime..

The Challenge

The international community has made significant strides towards lifting people out of poverty. The most vulnerable nations – the least developed countries, the landlocked developing countries and the small island developing states – continue to make inroads into poverty reduction. However, large disparities remain in access to health and education services and other assets within these countries. While income inequality between countries may have been reduced, inequality within countries has risen.

In 2017, the richest 1% of the world's population held 50.1% of the world's wealth, while the poorest 70% of the world's working age population people together hold only 2.7% of the global wealth. The imbalance is put into stark relief when one considers that a total of 36 million millionaires, who account for 0.7% of the world's adult population – control 46% of total global wealth that now stands at \$280tn.

In 2021 The United Nations did a report on the progress of the Sustainable Development Goals which showed how badly the Covid-19 pandemic has affected the progress of Sustainable Development Goal 10. It is predicted that the pandemic has caused the least developed countries around the world to be delayed on hitting the Sustainable Development Goals for as much as 10 years.

By the middle of 2020 the number of people who have tried to run away from their country has increased to 24 million which is the highest it has ever been. Due to border restrictions and mobility restrictions that were caused from the pandemic with an all-time high amount of refugees, it has caused a large spike of deaths and disappearances of refugees in 2020 totalling 4186 people.

How can we address this?

SDG 10 presents to the international community the following task: ensure that the income growth of the bottom 40% of their population is higher than the national average by the year 2030. To reduce inequality, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalised populations. Inclusion has to be promoted actively, in social as well as political spheres, for all ages, sexes, races, religions and ethnicities to create conditions of equity within countries. To create a fairer international system globally, global financial markets will require improved regulation, and developing countries will have to have a greater voice in international decision making.



Developing the introduction

Overall Aim of Sustainable Development Goal 10 - Reduced Inequalities

Sustainable Development Goal 10 aims at reducing inequality within and among countries. This SDG calls for reducing inequalities in income as well as those based on age, sex, disability, race, ethnicity, origin, religion or economic or other status within a country. The goal also addresses inequalities among countries, including those related to representation, migration and development assistance.

The international community has made significant strides towards lifting people out of poverty. The most vulnerable nations - the least developed countries, the landlocked developing countries and the Small Island developing States - continue to make inroads into poverty reduction. However, inequality still persists and large disparities remain in access to health and education services and other assets.

The targets are:

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations

10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies

10.A Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements

10.B Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes

10.C By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

Inequalities based on income, sex, age, disability, sexual orientation, race, class, ethnicity, religion and opportunity continue to persist across the world, within and among countries. Inequality threatens long-term social and economic development, harms poverty reduction and destroys people's sense of fulfilment and self-worth. This, in turn, can breed crime, disease and environmental degradation. Most importantly, we cannot achieve sustainable development and make the planet better for all if people are excluded from opportunities, services, and the chance for a better life.

Why is it important for the educational community?

Reducing inequality requires transformative change. Greater efforts are needed to eradicate extreme poverty and hunger, and invest more in health, education, social protection and decent jobs especially for young people, migrants and refugees and other vulnerable communities.

Within countries, it is important to empower and promote inclusive social and

economic growth. We can ensure equal opportunity and reduce inequalities of income if we eliminate discriminatory laws, policies and practices.

Among countries, we need to ensure that developing countries are better represented in decision-making on global issues so that solutions can be more effective, credible and accountable.

Governments and other stakeholders can also promote safe, regular and responsible migration, including through planned and well-managed policies, for the millions of people who have left their homes seeking better lives due to war, discrimination, poverty, lack of opportunity and other drivers of migration.

It can be and should be achieved to ensure a life of dignity for all. Political, economic and social policies need to be universal and pay particular attention to the needs of disadvantaged and marginalized communities. Recent statistics have shown that this is possible. Between 2010 and 2016, in 60 out of 94 countries with data, the incomes of the poorest 40 percent of the population grew faster than those of the entire population.

Key dimensions of Sustainable Development 10 Reduced Inequalities

- No poverty.
- Zero hunger.
- Good health and well-being.
- Quality education.
- Gender equality.
- Clean water and sanitation.
- Affordable and clean energy.
- Decent work and economic growth.

SDG 10 calls for increasing the income of bottom 40 % of the population and reducing inequalities based on income, sex, age, disability, race, class, ethnicity, religion and opportunity by adopting relevant policies and legislation. It also aims to improve the regulation and monitoring of financial markets and institutions.

SDG 10 addresses between-country inequalities by encouraging development assistance and foreign direct investment to the regions with the greatest need, promoting the implementation of the principle of special and differentiated trade treatment for developing countries and the representation of developing countries in decision-making in global economic and financial institutions.

SDG 10 seeks to promote social inclusion globally through the facilitation of safe, orderly and regular migration and the reduction of transaction costs of migrant remittances.

Monitoring SDG 10 in an EU context focuses on progress made in reducing inequalities between and within countries and in achieving social inclusion and safe migration.

The interplay between Sustainable Development Goal 10 Reduced Inequalities and the acquisition of 21st century skills

Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development.

Embarking on the path of sustainable development will require a profound transformation of how we think and act. To create a more sustainable world and to engage with sustainability-related issues as described in the SDGs, individuals must become sustainability change-makers. They require the knowledge, skills, values and attitudes that empower them to contribute to sustainable development. Education, therefore, is crucial for the achievement of sustainable development.

Learning objectives for SDG 10 Reduce Inequality:

1. The learner knows different dimensions of inequality, their interrelations and applicable statistics.
2. The learner knows indicators that measure and describe inequalities and understands their relevance for decision-making.
3. The learner understands that inequality is a major driver for societal problems and individual dissatisfaction.

4. The learner understands local, national and global processes that both promote and hinder equality (fiscal, wage, and social protection policies, corporate activities, etc.).

5. The learner understands ethical principles concerning equality and is aware of psychological processes that foster discriminative behaviour and decision making.

Socio-emotional learning objectives:

1. The learner is able to raise awareness about inequalities.

2. The learner is able to feel empathy for and to show solidarity with people who are discriminated against.

3. The learner is able to negotiate the rights of different groups based on shared values and ethical principles.

4. The learner becomes aware of inequalities in their surroundings as well as in the wider world and is able to recognize the problematic consequences.

5. The learner is able to maintain a vision of a just and equal world. Behavioural learning objectives:

1. The learner is able to evaluate inequalities in their local environment in terms of quality (different dimensions, qualitative impact on individuals) and quantity (indicators, quantitative impact on individuals).

2. The learner is able to identify or develop an objective indicator to compare different groups, nations, etc. with respect to inequalities.

3. The learner is able to identify and analyse different types of causes and reasons for inequalities.

4. The learner is able to plan, implement and evaluate strategies to reduce inequalities.

5. The learner is able to engage in the development of public policies and corporate activities that reduce inequalities.

Activity 1

Learning Tool Code	Title
SDG10-SDGfP	Inequality
Objectives	
<ul style="list-style-type: none"> - students recognize forms of inequality in the world (labor market, gender inequality, age inequality, human rights of persons with disabilities, differences in sexual orientation, racial inequality, social differences, national differences, religious diversity) - students recognize the possible consequences of inequality on economic development, poverty reduction, development of social empathy and self-confidence of the individual - students describe and explain unacceptable forms of behavior: insults, belittling, shame and hate speech - students use acceptable ways of communication in the real and virtual world - students think critically and develop a positive attitude towards reducing inequalities between people, between countries and within the country 	
Activity details	
<ul style="list-style-type: none"> - material - see annex/given through the activities - number of students: 12 - 15 students (5th or 6th grade; 11 - 12 years) - duration: 60 minutes 	
Instructions	
<p>1. Introductory part / motivation</p> <p>- duration: 10 minutes</p> <p>Game: Broken phone</p> <ul style="list-style-type: none"> - students play a game to relax and get to know each other better <p>Students stand in a circle. The first student whispers a word or sentence to the student next to him. The task is to convey the message to the last student in the circle. At the end, the last student says the message out loud.</p> <p>The teacher asks questions:</p> <p>Is it the same message sent by the first student?</p> <p>What happened in our communication?</p> <p>We conclude that we can hear and understand the message differently and that there may be a misunderstanding in communication.</p>	

The topic of today's workshop is inequality among people that threatens basic human rights. Inequality among people needs to be reduced, but existing inequalities are deepening, affecting the poorest and most vulnerable communities the most, and growing hate speech targeting vulnerable groups.

Students will watch a short film to understand what inequality among people means. After watching the film, they share their impressions.

The teacher asks questions:

What are the forms of inequality among people?

What are the consequences of inequality?

<https://www.youtube.com/watch?v=XWgE6D7ejtg>

2. Activity

- duration: 40 minutes

Divide students into four or five groups. Each group chooses one person to play the role: an old man, a blind person, a girl who does not go to school, an emigrant, an LGBT person. He is wearing a paper hat with the name of the role. Other students ask questions until the person playing the role guesses who it is.

After the game, there is a conversation with the role players and the students who asked questions.

Questions for role players:

What did you think when you answered the questions?

How did you feel?

Is it a pleasant feeling when you are considered different from others?

Were any questions embarrassing?

Questions for other students:

How did you feel asking the questions?

Were there any questions that made you feel uncomfortable?

What prejudices do these people face in their lives?

What can we do to reduce inequality and hate speech towards certain groups of people?

3. Completion

- duration: 10 minutes

Game: Mirror

Students are divided into pairs. The first student is a man and the second student is a mirror. The first student performs movements and facial expressions that the second student imitates. After a few minutes, the players switch roles.

Tasks: making a one-minute film with messages about reducing inequality (racial, national, social).

Tips for the facilitator

Before the workshop: Make hats with inscriptions: old man, blind person, girl who does not go to school, emigrant, LGBT person.

The teacher asks questions to the students to motivate them to work.

The teacher gives instructions for work, helps students during work.

Debriefing

Students can make a one-minute film with messages about reducing inequality and hate speech (Stop Animation or Powtoon).

Follow-up/Inspiration for the future

Notices on the school website, social media and local media.

References/Further reading

<https://www.un.org/sustainabledevelopment/inequality/>

https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/01/10_Why-It-Matters-2020.pdf

https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/07/E_Infographic_10.pdf

<https://www.youtube.com/watch?v=XWgE6D7ejtg>

<https://www.youtube.com/watch?v=OCJvzSuVT6Q>

Annex

Make hats with inscriptions: old man, blind person, girl who does not go to school, emigrant, LGBT person.

How to make a hat: <https://www.youtube.com/watch?v=OCJvzSuVT6Q>

Activity 2

Learning Tool Code	Title
SDG10-SDGfP	Different people can also hang out together!
Objectives	
<ul style="list-style-type: none"> - Students learn the importance of being equal; - Students think critically; - Students work goal-directed; - Students are able to define alternatives for action and set priorities; - Students are able to make smart and informed decisions; - Claim values that are in line with SDG10; - Respond positively towards achieving SDG10; - Understanding the importance of equality among people; 	
Activity details	
<p>Material - see annex</p> <p>Duration - 2h 45 min</p> <p>Group number - several groups of 4-5 students (5th grade, 10-11 years)</p>	
Instructions	
<p>Lesson one (45 min)</p> <p>Chairs are placed in a circle. All the students and the teacher are sitting in a circle. The teacher says "Now I will read some statements. "Every time you hear a claim that applies to you, you will have to change places."</p> <p>Example: <i>Anyone who wants to play football change places.</i></p> <p><i>Anyone who wants to rubber band jump change places.</i></p> <p><i>Anyone who has a pet change places.</i></p> <p><i>Anyone who wants to eat spinach change places.</i></p> <p><i>Anyone who is a student change places.</i></p> <p><i>Anyone who carries writing supplies today change places.</i></p> <p>After the game, a discussion follows.</p> <ol style="list-style-type: none"> 1. Was there anyone who sat all the time? Why? 2. Was there a situation when we all changed places? Why? 	

Lesson two (1 h)

The teacher reads a story to the students (see annex)

* The story is an adapted version by Kave, K. & Ridell, Ch. (1994). Something Else. London: Puffin Books

https://www.youtube.com/watch?v=SyxlkXc167g&ab_channel=LivKoleji

Discussion

1. How does Something Else feel in this story? Why?
2. Did Something Else try to be like the others?
3. Why do you think Something Else was trying to be like the others?
4. Why did Something Else not allow the creature to stay with him?
5. How did the creature feel when it left the home of Something Else? Why?
6. What made Something Else change his mind and bring the creature back?
7. In the end, although the creature and Something Else were different, they agreed. How do you think they did it?

Lesson three (1 h)

The students are divided into groups of 4-5 students each. Each group gets a piece of paper on which they have one of the following questions to be answered in writing.

1. When have you felt like Something Else at school?
2. When have you felt like Something Else at home?
3. What would you do if Something Else appeared in your classroom?

(If there are more groups, the questions are repeated)

After they have finished writing, one child from each group presents the group results that are being discussed.

Tips for the facilitator

- 1) The teacher asks questions after the end of the game to draw a conclusion.
- 2) The teacher encourages a discussion to draw conclusions from the read text.
- 3) The teacher invites the students to share the results from the group work.

Debriefing

Students discuss their opinions between the group members and then they present the group results to the rest of the class.

Follow-up/Inspiration for the future

Students design posters with drawings and equality messages and place them throughout the school.

References/Further reading

Kave, K. & Ridell, Ch. (1994). Something Else. London: Puffin Books

https://www.youtube.com/watch?v=GnQOGL1C-vE&t=3s&ab_channel=Home-StartAWA

Annex

The link with the story is in references.

Sustainable Development Goal 11

Sustainable cities and communities

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

- SDG 11 seeks to make cities more inclusive, safe, resilient and sustainable.
- This means guaranteeing access for all to adequate housing and basic services; assuring accessible and sustainable urbanisation and transport, and safeguarding the world's cultural and natural heritage, among other targets.
- Today, more than half the world's population lives in cities.
- By 2030, it is projected that 6 in 10 people will be urban dwellers.
- Despite numerous planning challenges, cities offer more efficient economies of scale on many levels, including the provision of goods, services and transportation.
- With sound, risk-informed planning and management, cities can become incubators for innovation and growth and drivers of sustainable development. almost the entire world population lives in an area covered by a mobile network.

Cities A List 2021

- As COP26 - one of the most important climate conferences in history - ended, a new generation of cities leading from the front on climate change emerged.
- 95 cities (up from 88 cities in 2020) are named on this year's A List as bold leaders in environmental transparency and action, with almost half (46 cities) being new for 2021.
- To score an A, among other actions, a city must disclose publicly and have a city-wide emissions inventory, have set an emissions reduction target and a renewable energy target for the future; and have published a climate action plan.
- An A List city must also complete a climate risk and vulnerability assessment and have a climate adaptation plan to demonstrate how it will tackle climate hazards.
- And it must be making progress towards achieving its ambitious but realistic goals.

Targets:

11.1. SAFE AND AFFORDABLE HOUSING

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.



11.2. AFFORDABLE AND SUSTAINABLE TRANSPORT SYSTEMS

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

TARGET 11.2



11.3. INCLUSIVE AND SUSTAINABLE URBANIZATION

By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

TARGET 11.3



11.4. PROTECT THE WORLD'S CULTURAL AND NATURAL HERITAGE

Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

TARGET 11.4



11.5. REDUCE THE ADVERSE EFFECTS OF NATURAL DISASTERS

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

TARGET 11.5



11.6. REDUCE THE ENVIRONMENTAL IMPACT OF CITIES

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

TARGET 11.6



11.7. PROVIDE ACCESS TO SAFE AND INCLUSIVE GREEN AND PUBLIC SPACES

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

TARGET 11.7



11.8. STRONG NATIONAL AND REGIONAL DEVELOPMENT PLANNING

Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

TARGET 11.8



11.9. IMPLEMENT POLICIES FOR INCLUSION, RESOURCE EFFICIENCY AND DISASTER RISK REDUCTION

By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

TARGET 11.9



11.10. SUPPORT LEAST DEVELOPED COUNTRIES IN SUSTAINABLE AND RESILIENT BUILDING

Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

TARGET 11.A



THINGS TO DO

- Find a Goal 11 charity you want to support. Any donation, big or small, can make a difference!
- Support a project in slums for safe housing. You can volunteer in slums to help with building houses, fixing existing ones, setting up public or green spaces.
- Shop, eat and drink locally. Supporting neighbourhood businesses keeps people employed and circulates money back into your community.
- Take advantage of your right to elect the leaders in your local community.
- Commute in a sustainable way – bike, walk or take public transport. Save the car trips for when you've got a big group.
- Take care of public spaces. Start yourself and inspire others to contribute to better public spaces – water the greenery, trim and plant trees, renovate sports areas and playgrounds, organize a cleanup.



11 SUSTAINABLE CITIES AND COMMUNITIES



5 billion people are projected to live in cities by 2030

SUSTAINABLE CITIES: WHY THEY MATTER

What's the goal here?

To make cities inclusive, safe, resilient and sustainable

Why?

Half of humanity—3.5 billion people—live in cities today, and this number will continue to grow. Because the future will be urban for a majority of people, the solutions to some of the greatest issues facing humans—poverty, climate change,

healthcare, education—must be found in city life.

What are some of the most pressing challenges that cities face today?

Inequality is a big concern. 833 million people live in slums and this number keeps rising. The levels of urban energy consumption and pollution are also worrying. Cities occupy just 3 per cent of the Earth's land, but account for 60-80 per cent of energy consumption and 75 per

cent of carbon emissions. Many cities are also more vulnerable to climate change and natural disasters due to their high concentration of people and location so building urban resilience is crucial to avoid human, social and economic losses.

I live in a city but I'm not affected by any of these issues. Why should I care?

All these issues will eventually affect every citizen. Inequality can lead to unrest and insecurity, pollution deteriorates everyone's health and affects workers' productivity and therefore the economy, and natural disasters have the potential to disrupt everyone's lifestyles.

What happens if cities are just left to grow organically?

The cost of poorly planned urbanization can be seen in some of the huge slums, tangled traffic, greenhouse gas emissions and sprawling suburbs all over the world. Slums are a drag on GDP, and lower

life expectancy. By choosing to act sustainably we choose to build cities where all citizens live a decent quality of life, and form a part of the city's productive dynamic, creating shared prosperity and social stability without harming the environment.

Is it expensive to put sustainable practices in place?

The cost is minimal in comparison with the benefits. For example, there is a cost to creating a functional public transport network, but the benefits are huge in terms of economic activity, quality of life, the environment, and the overall success of a networked city.

What can I do to help achieve this goal?

Take an active interest in the governance and management of your city

Take notice of what works, and what doesn't in your community

Advocate for the kind of city you believe you need

Develop a vision for your building, street, and neighbourhood, and act on that vision. Are there enough jobs? Are you close to healthcare? Can your children walk to school safely? Can you walk with your family at night? How far is the nearest public transport? What's the air quality like? What are your shared public spaces like? The better the conditions you create in your community, the greater the effect on quality of life.

To find out more about Goal #11 and other Sustainable Development Goals, visit:

<http://www.un.org/sustainabledevelopment>



"It is important for cities to talk to each other about the different phases of SDG implementation because there is not one right way to do this."

- Alex Hiniker, Executive Fellow for Sustainability Initiatives, Carnegie Mellon University

"The SDG dashboard enables us to pose questions out to citizen-led data gathering groups who can help us crowdsource publicly available datasets to create new measures or new indicators within the SDG framework that are particularly relevant to LA"

- Erin Bromaghin, Los Angeles Mayor's Office of International Affairs

"The mapping of our local government program to the global agenda is giving the possibility of engaging in to a dialogue with a larger set of partners, most importantly, private investors."

- Diana Alarcón González, Chief Advisor, and Foreign Affairs Coordinator, Mexico City Government

"The Voluntary Local Review is a process to get to a city strategic report and then find a space to put it into the international level."

- Beryl Mphahathi, Deputy City Manager for Human Settlements, Engineering and Transport, Durban (EthekeMunicipality)

USED Literature

<https://www.globalgoals.org/goals/11-sustainable-cities-and-communities/>

<https://unstats.un.org/sdgs/report/2016/goal-11>

<https://www.cdp.net/en/cities/cities-scores>

<https://www.un.org/sustainabledevelopment/wp-content/uploads/2018/09/Goal-11.pdf>

<https://www.cities.fund/sdg-11>



Developing the introduction

Overall Aim of Sustainable Development Goal 11 – Sustainable cities and communities

SDG 11 aims to renew and plan cities and other human settlements in a way that offers opportunities for all, with access to basic services, energy, housing, transportation and green public spaces, while reducing resource use and environmental impact. The SDG 11 is to **"Make cities inclusive, safe, resilient and sustainable"**. The targets of SDG 11 include investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.

SDG 11 has 10 targets:

Target 11.1: Safe and affordable housing

Target 11.2: Affordable and sustainable transport systems

Target 11.3: Inclusive and sustainable urbanization

Target 11.4: Protect the world's cultural and natural heritage

Target 11.5: Reduce the adverse effects of natural disasters

Target 11.6: Reduce the environmental impacts of cities

Target 11.7: Provide access to safe and inclusive green and public spaces

Target 11.a: Strong national and regional development planning

Target 11.b: Implement policies for inclusion, resource efficiency and disaster risk reduction

Target 11.c: Support least developed countries in sustainable and resilient building

SDG 11 has 10 targets to be achieved, and this is being measured with 15 indicators. The seven "outcome targets" include safe and affordable housing, affordable and sustainable transport systems, inclusive and sustainable urbanization, protection of the world's cultural and natural heritage, reduction of the adverse effects of natural disasters, reduction of the environmental impacts of cities and to provide access to safe and inclusive green and public spaces. The three "means of achieving" targets include strong national and regional development planning, implementing policies for inclusion, resource efficiency, and disaster risk reduction in supporting the least developed countries in sustainable and resilient building.

Why is it important for educational community?

SDG 11 aims to promote inclusive, safe, resilient, and sustainable cities and human settlements. This goal is all about managing urban development. Well-managed cities can be hubs of innovation and prosperity. Identify and address basic physical, social and psychological human needs in relation to human settlements such as cities and towns.

SDG 11 is important for the educational community because it helps students apply basic principles of sustainable planning and building, and to identify opportunities to make their community more sustainable and inclusive. Teaching SDG 11 can reflect on the role of local decision-makers and participatory governance and how to represent a sustainable voice in planning and policy for their community.

It can help students engage with community groups and local planning systems for sustainable future visions for their community. It can also help students plan, implement, and evaluate inclusive community-based sustainable projects.

Key dimensions of Sustainable Development 11 Sustainable cities and communities

Disaster risk reduction is an integral part of social and economic development and is essential if development is to be sustainable for the future. This has been recognized by several global documents on disaster risk reduction and sustainable development. The 2030 Agenda for Sustainable Development recognizes and reaffirms the urgent need to reduce the risk of disasters. In addition to direct references to the outcomes of the Third UN Conference on disaster risk reduction (Sendai Framework), there are specific opportunities to achieve reducing disaster risk. For example, by reducing exposure and vulnerability of the poor to disasters or building resilient infrastructure. There are also several targets that can contribute to reducing disaster risk and building resilience, even where disaster risk reduction is not explicit. Targets related to promoting education for sustainable development under SDG# 4, such as building and upgrading education facilities and ensuring healthy lives, as well as targets under SDG #11 (cities) and under SDG #9 (building resilient infrastructure) reaffirm the interrelationship between disaster risk reduction and sustainable development, amongst others can be cited.

The role of transport in sustainable development was first recognized at the 1992 United Nations Earth Summit and reinforced in its outcome document – Agenda 21. In undertaking the five-year review of the implementation of Agenda 21 during its nineteenth Special Session in 1997, the UN General Assembly further noted that, over the next twenty years, transportation would be expected to be the major driving force behind a growing world demand for energy. The global attention to transport has continued in recent years. Sustainable transportation can enhance economic growth and improve accessibility. Sustainable transport achieves better integration of the economy while respecting the environment, improving social equity, health, resilience of cities, urban-rural linkages and productivity of rural areas. In the 2030 Agenda for Sustainable Development, sustainable transport is mainstreamed across several SDGs and targets, especially those related to food security, health, energy, economic growth, infrastructure, and cities and human settlements. Human settlements—Cities are hubs for ideas, commerce, culture, science, productivity, social, human and economic development. Urban planning, transport systems, water, sanitation, waste management, disaster risk reduction, access to information, education and capacity-building are all relevant issues to sustainable urban development. In 2008, for the first time in history, the global urban population outnumbered the rural population. This milestone marked the advent of a new 'urban millennium' and, by 2050, it is expected that two-thirds of the world population will be living in urban areas. With more than half of humankind living in cities and the number of urban residents growing by nearly 73 million every year it is estimated that urban areas account for 70 per cent of the world's gross domestic product and has therefore generated economic growth and prosperity for many. Sustainable human settlements development was also discussed at the second and third sessions of the Commission on Sustainable Development. "Promoting sustainable human settlements development" is the subject of Chapter 7 of Agenda 21, which calls for 1) providing adequate shelter for all; 2) improving human settlements management; 3) promoting sustainable land-use planning and management; 4) promoting the integrated provision of environmental infrastructure: water, sanitation, drainage and solid waste management; 5) promoting sustainable energy and transport systems in human settlements; 6) promoting human settlements planning and management in

disaster-prone areas; 7) promoting sustainable construction industry activities; and 8) promoting human resource development and capacity-building for human settlements development.

The interplay between Sustainable Development Goal 11 Sustainable cities and communities and the acquisition of 21st century skills

Soft skills are essential for modern-day life and the workplace. Therefore, teaching 21st-century skills to students is as important as teaching content. We have to be adaptable, we have to be creative, we have to be tech-literate and we have to be problem-solvers. We need those skills because the world is always evolving, and it's doing so at a rapid pace. There is an enormous amount of information out there at our disposal. Back in the days, we didn't "Google" anything. If we needed a question answered we had to track down an encyclopedia or visit a library. It made a little more sense at the time to memorize information. It was useful occasionally.

Now we have access to information literally anytime, anywhere. What is relevant now is being able to navigate the plethora of information out there; it is being able to locate, organize, and make use of credible and accurate information. Problem-solving is an important skill in itself, but being able to apply problem-solving skills to real-world issues and scenarios is critical. Students need to be able to exit the classroom, get into their careers, have and raise children, navigate relationships, recognize when they're being taken advantage of, resolve conflict in the workplace, etc. without you there holding their hands. They need to be able to take those problem-solving skills that they were taught within the confines of the context of your classroom and apply them to real problems that surface in their lives, and yes, there will be many. Twenty-first century skill-building opportunities help students build character. It is important as collaborative and social beings that children have empathy, compassion, are ethical, have integrity, work well with others, and so much more.

Activity 1

Learning Tool Code	Title
SDG11-SDGfP	Sustainable cities and communities
Objectives	
<ul style="list-style-type: none"> ● students understands and explains the concept of planned construction ● students understands what the term sustainable community means ● students learns to cooperate in a team ● students applies critical thinking and problem solving ● students develops a positive attitude towards learning new content (Sustainable Development) 	
Activity details	
<ul style="list-style-type: none"> ● materials - see annex/ given through the activities ● duration: 90 minutes ● number of students: 10 – 20 (group work, pair work and individual work of students) 	
Instructions	
<p>Activity 1. (15 min)</p> <p>More than half of us live in cities. By 2030, two - thirds of all humanity (6.5 billion people) will be urban. Sustainable development cannot be achieved without significantly transforming the way we build and manage our urban spaces.</p> <p>The rapid growth of cities, a result of rising populations and increasing migration, has led to a boom in mega - cities, especially in the developing world, and slums are becoming a more significant feature of urban life.</p> <p>Making cities sustainable means creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.</p> <p>The teacher asks questions and encourages students to discussion:</p> <ul style="list-style-type: none"> - What does it mean when the city was built according to plan? - What problems do disabled people or elderly people have in the city? - What are the problems of cities with a lot of people? 	

The teacher plays a short video, which explains what the term “sustainable community” means and how it is related to the goals of Sustainable Development:

<https://youtu.be/r2myzbWQIJA>

Activity 2. (40 min)

Everyone can help to make sure that we meet the Global Goals. We can use these ten targets to create action to make cities and communities sustainable.

11.1. SAFE AND AFFORDABLE HOUSING

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

11.2. AFFORDABLE AND SUSTAINABLE TRANSPORT SYSTEMS

By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

11.3. INCLUSIVE AND SUSTAINABLE URBANIZATION

By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

11.4. PROTECT THE WORLD'S CULTURAL AND NATURAL HERITAGE

Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

11.5. REDUCE THE ADVERSE EFFECTS OF NATURAL DISASTERS

By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

11.6. REDUCE THE ENVIRONMENTAL IMPACT OF CITIES

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

11.7. PROVIDE ACCESS TO SAFE AND INCLUSIVE GREEN AND PUBLIC SPACES

By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

11.8. STRONG NATIONAL AND REGIONAL DEVELOPMENT PLANNING

Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

11.9. IMPLEMENT POLICIES FOR INCLUSION, RESOURCE EFFICIENCY AND DISASTER RISK REDUCTION

By 2030, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

11.10. SUPPORT LEAST DEVELOPED COUNTRIES IN SUSTAINABLE AND RESILIENT BUILDING

Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.

Students in the team develop a vision of a part of the settlement that is self-sustainable, which means that people living in that settlement will have:

1. Sufficient jobs in factories that do not pollute the air
2. school and kindergarten
3. A safe way to school for every child
4. safe transport to work, school and kindergarten
5. spaces for quality and safe entertainment

Students can draw a settlement plan on paper or they can make a 3D settlement plan.

The vision can be realized using the computer game Minecraft or something similar:

<https://www.minecraft.net/en-us/get-minecraft>

Activity 3. (35 min)

As COP26 - one of the most important climate conferences in history - ended, a new generation of cities leading from the front on climate change emerged. 95 cities (up from 88 cities in 2020) are named on this year's A List as bold leaders in environmental transparency and action, with almost half (46 cities) being new for 2021.

To score an A, among other actions, a city must disclose publicly and have a city-wide emissions inventory, have set an emissions reduction target and a renewable energy target for the future; and have published a climate action plan. An A List city must also complete a climate risk and vulnerability assessment and have a climate adaptation plan to demonstrate how it will tackle climate hazards. And it must be making progress towards achieving its ambitious but realistic goals.

The teacher plays a short video, which is showing how some cities around the world are taking environmental actions: <https://www.cdp.net/en/cities>

Students in the team are trying to search in the internet if their town is an A list city. If their town is an A list city, students make presentation of environmental actions that are made in their city and about actions that are planning in the future. If their town is not an A list city, students make presentation of environmental actions that should be done in their city so it can be an A list city.

Tips for the facilitator

- the teacher asks questions and tries to involve as many students as possible for discussion
- the teacher is helping, leading and guiding students when they need help

Debriefing

THINGS TO DO

- ✓ Find a Goal 11 charity you want to support. Any donation, big or small, can make a difference!
- ✓ Support a project in slums for safe housing. You can volunteer in slums to help with building houses, fixing existing ones, setting up public or green spaces.

- ✓ Shop, eat and drink locally. Supporting neighbourhood businesses keeps people employed and circulates money back into your community.
- ✓ Take advantage of your right to elect the leaders in your local community.
- ✓ Commute in a sustainable way – bike, walk or take public transport. Save the car trips for when you've got a big group.
- ✓ Take care of public spaces. Start yourself and inspire others to contribute to better public spaces – water the greenery, trim and plant trees, renovate sports areas and playgrounds, organize a cleanup.

Follow-up/Inspiration for the future

Information on the school website, social media and local media.

References/Further reading

<https://www.jointsdgfund.org/sustainable-development-goals/goal-11-sustainable-cities-and-communities>

<https://sdgimpact.asu.edu/sdg-11-sustainable-cities-and-communities>

<https://www.cdp.net/en/cities>

<https://www.globalgoals.org/goals/11-sustainable-cities-and-communities/>

Annex

<https://youtu.be/r2myzbWQIJA>

<https://www.cdp.net/en/cities>

Activity 2

Learning Tool Code	Title
SDG11-SDGfP	To protect the natural and cultural heritage
Objectives	
<ul style="list-style-type: none"> - Students to learn about SDG 11; - Students think critically ; - Students work goal oriented; - Students are able to make smart decisions 	
Activity details	
<p>Materials - see annex</p> <p>Duration - 1h</p> <p>Number of group -2-3 groups, 5-7 students each (5th grade, age 10-11 years)</p>	
Instructions	
<p>Lesson one (1 hour)</p> <p>The teacher starts the class by showing pictures of different cultural heritages in the country and encourages conversation with the students about whether the places are known to them, what they are known for and what significance they have for us and if they have ever visited them. (suggested pictures in the annex, also see tips for the facilitator) If they do not know a place, the teacher gives them an explanation of its importance. Students actively participate in the discussion and share other familiar places they know. The teacher asks the students about the cultural heritage of their city and what makes them famous and important. The teacher divides the students into three groups and each group is given the task to explain the importance of cultural heritage and to think of ideas on how we can preserve it. The groups discuss for about 20 minutes and then present their conclusions to the other students.</p> <p>Lesson two</p> <p>The teacher explains to the students the goals of sustainable development with an emphasis on SDG11 and targets with an emphasis on the preservation of cultural heritage. The students are divided into several groups tasked with visiting a nearby cultural heritage site and reviewing the situation of the same. Once they have determined the situation, the students have the task to make a presentation about the existence and</p>	

importance of the place, as well as the situation in which it is located and their ideas on how it can be improved and preserved.

Students present their conclusions to the rest of the group.

Tips for the facilitator

- 1) The teacher encourages conversation about different cultural heritages in the country.
- 2) The teacher explains about SDG 11
- 3) The teacher invites the students to share the research results.

Teachers can use different pictures from the ones presented in the annex. They can show photos of places that are important in their country.

Debriefing

Students can present their conclusions in a form of a PowerPoint presentation or use Story Jumper.

Follow-up/Inspiration for the future

Students design posters to preserve cultural heritage and display them at school.

References/Further reading

https://mk.wikipedia.org/wiki/%D0%A1%D0%BF%D0%B8%D1%81%D0%BE%D0%BA_%D0%BD%D0%Bo_%D0%BA%D1%83%D0%BB%D1%82%D1%83%D1%80%D0%BD%D0%BE_%D0%BD%D0%Bo%D1%81%D0%BB%D0%B5%D0%B4%D1%81%D1%82%D0%B2%D0%BE_%D0%BD%D0%Bo_%D0%9C%D0%Bo%D0%BA%D0%B5%D0%B4%D0%BE%D0%BD%D0%B8%D1%98%D0%Bo

Annex

Lesson one

Pictures of cultural heritage in North Macedonia

(Museum on Water "Bay of Bones" - Pestani)



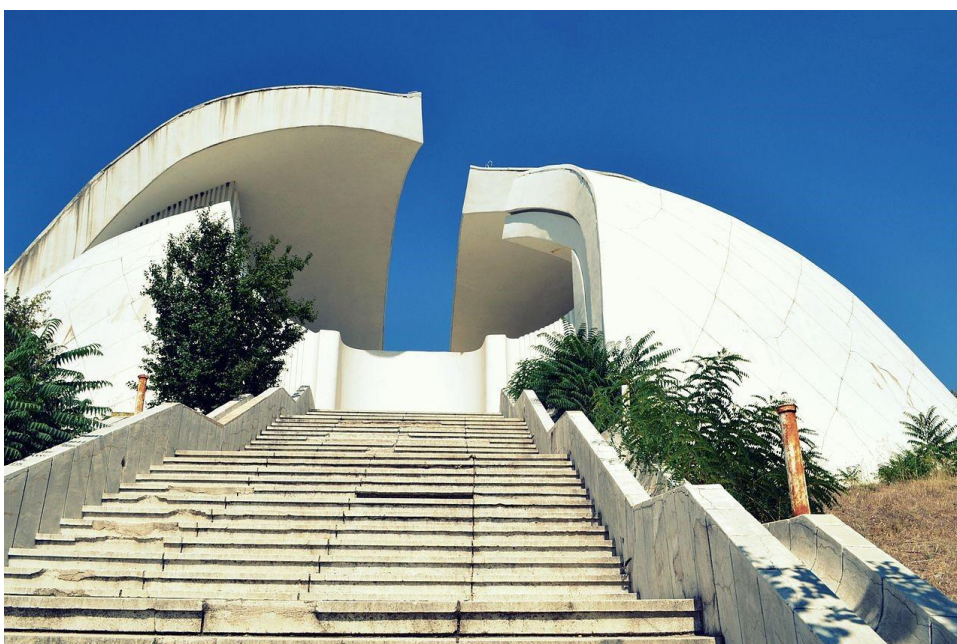
(Monument Ilinden-Krushevo)



(House of Gligor Prlichev - Ohrid)



(Memorial ossuary - Veles)



(Stobi-Gradsko)



(Vinica Fortress - Vinica)



(Freedom Monument - Kocani)





(Medieval tower - Kocani)



(Morobizdon - village of Morodvis, Kocani)



Sustainable Development Goal 12

Responsible Consumption and Production

Worldwide consumption and production rest on the use of the natural environment and resources in a way that continues to have destructive impacts on the planet. Economic and social progress over the last century has been accompanied by environmental degradation that is endangering the very systems on which our future development depends.

Sustainable Development Goal 12 (SDG 12 or Global Goal 12), titled “responsible consumption and production”, is one of the 17 Sustainable Development Goals established by the United Nations in 2015. The official wording of SDG 12 is “Ensure sustainable consumption and production patterns”.

SDG 12 is meant to ensure good use of resources, improving energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and ensuring a better quality of life for all.



SDG 12 has 11 targets to be achieved by at least 2030 and progress toward the targets is measured using 13 indicators:

12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.

12.2 By 2030, achieve the sustainable management and efficient use of natural resources.

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

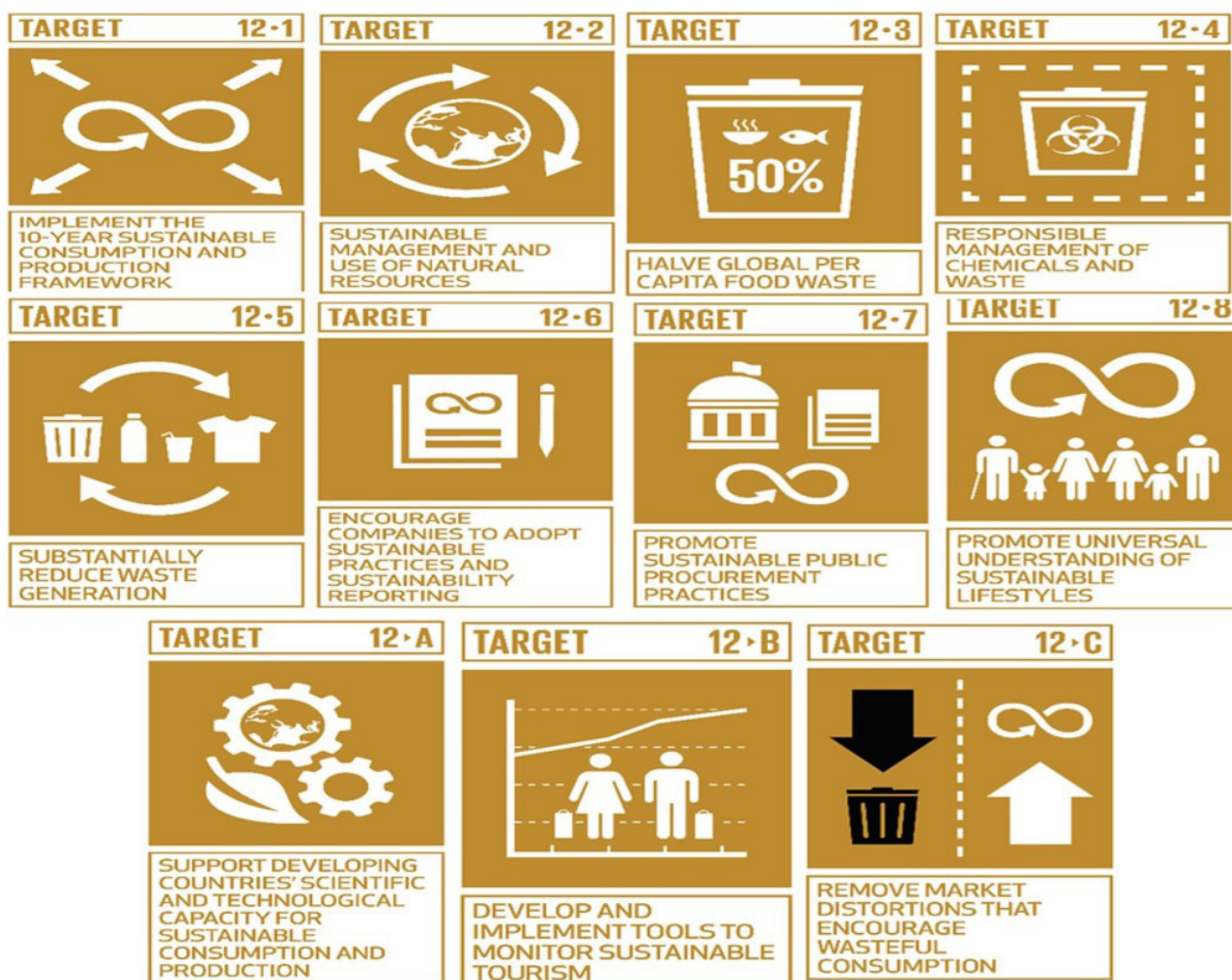
12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

12.A Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

12.B Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

12.C Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.



Why is it important?

Sustainable consumption and production aims at “doing more and better with less,” increasing net welfare gains from economic activities by reducing resource use, degradation, and pollution, while increasing the quality of life.

Achieving sustainable consumption and production patterns secures efficiency and productivity gains, ensuring that human activities remain within the carrying capacity of the planet, while respecting the rights of future generations.

What needs to change?

Reducing food loss and waste can contribute to environmental sustainability by lowering production costs and increasing the efficiency of food systems.

How can I help as a business?

It's in businesses' interest to find new solutions that enable sustainable consumption and production patterns. Innovation and design solutions can both enable and inspire individuals to lead more sustainable lifestyles, reducing impacts and improving well-being.

How can I help as a consumer?

There are two main ways to help: reducing your waste and being thoughtful about what you buy and choosing a sustainable option whenever possible. Ensure you don't throw away food, and reduce your consumption of plastic.

Challenges

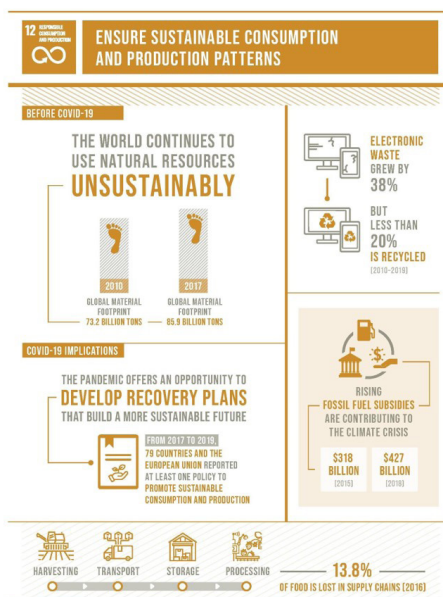
1. COVID-19
2. Globalization

Globalization has been increasingly recognized to have a role in the achievement of sustainable development.

Firstly, globalization has changed people's eating habits and dietary patterns.

Secondly, the food supply chain is greatly lengthened under globalization, consequently, food supply chain management issues continue to rise and greatly contribute to food loss.

Thirdly, globalization has made international trading more competitive and has a huge impact on the domestic economy and production mode



<https://goumbook.com/sdg-12-responsible-consumption-and-production/>

How can we address this?

Sustainable consumption and production is about promoting resource and energy efficiency, sustainable infrastructure. It requires a systemic approach and co-operation among actors operating in the supply chain, from producer to final consumer.

It involves engaging consumers through awareness-raising and education on sustainable consumption and lifestyles, providing consumers with adequate information through standards and labelling and engagement in sustainable public procurement.

It will involve a new global partnership between business, consumers, policy makers, researchers, scientists, retailers, the media, and development co-operation agencies.

Links to other Sustainable Development Goals

Achieving SDG 12 will contribute to the achievement of the other SDGs in a direct or indirect way. SDG 12 has targets related to SDG 2, SDG 3, SDG 4, SDG 8, SDG 9, SDG 13, SDG 14 and SDG 15.

With proper policy support, growing diversity is the foundation for dietary diversity and hence health and nutrition (SDG 2, 3), for resilience to biotic and abiotic stressors (SDG 13 and SDG 15) and should further decent employment (SDG 8) and rural livelihoods (SDG 1). Furthermore, achieving SDG 12 requires constraining industrial agriculture because of its negative impacts on other SDGs, including SDG 6, because it is the largest user of freshwater resources; SDG 2 and SDG 15 because they are chief drivers of biological diversity loss; SDG 7 because of its dependence on fossil fuels; SDG 14 because of pesticide and fertilizer run-off, polluting land and water and creating dead zones in the seas; and SDG 13 because it is a major contributor to greenhouse gas emissions.

https://sustainabledevelopment.un.org/content/documents/18777Interlinkages_EGM_Summary_Report_2018.pdf

Sustainable Development Goal 12: Responsible Consumption and Production

Sustainable Development Goal 12: Responsible Consumption and Production

<https://youtu.be/cKlPNGZBrtI>



References

United Nations (2017) Resolution adopted by the General Assembly on 6 July 2017 Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development, <https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F71%2F313&Language=E&Device-Type=Mobile&LangRequested=False>

"Sustainable Consumption and Production: A Crucial Goal for Sustainable Development—Reflections on the Spanish SDG Implementation Report", Journal of Sustainability Research. 1 (2). 2019, https://sustainability.hapres.com/htmls/JSR_1120_Detail.html

Environment, U. N. (2017-10-02). "GOAL 12: Sustainable consumption and production". UNEP - UN Environment Programme. Retrieved 2020-09-05, <https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-12>

Thyberg, Krista L.; Tonjes, David J. (January 2016). "Drivers of food waste and their implications for sustainable policy development". Resources, Conservation and Recycling. 106: 110–123, <https://www.sciencedirect.com/science/article/abs/pii/S0921344915301439?via%3Dihub>

Industrial Ecology in Support of Sustainable Development Goals (2022) Part of the Encyclopedia of the UN Sustainable Development Goals book series (ENUNSDG), Usama Awan, https://link.springer.com/referenceworkentry/10.1007/978-3-319-95726-5_18

"Advancing the 2030 Agenda: Interlinkages and Common Themes at the HLPF 2018" (PDF). UN Sustainable Development. P. 30. Retrieved 15 September 2020.

Resources:

On these links you can find more information about SDG 12:

<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

<https://www.unep.org/explore-topics/sustainable-development-goals/why-do-sustainable-development-goals-matter/goal-12>

<https://sdg-tracker.org/sustainable-consumption-production>

<https://www.globalgoals.org/goals/12-responsible-consumption-and-production/>

<https://www.undp.org/tag/goal-12-responsible-consumption-and-production>

<https://ec.europa.eu/eurostat/web/sdi/responsible-consumption-and-production>





Developing the introduction

Overall Aim of Sustainable Development Goal 12 - Responsible consumption and production

Sustainable Development Goal 12 Responsible consumption and production, is one of the 17 Sustainable Development Goals established by the United Nations in 2015. The official wording of SDG 12 is **"Ensure sustainable consumption and production patterns"**. SDG 12 is meant to ensure good use of resources, improving energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and ensuring a better quality of life for all. SDG 12 has 11 targets to be achieved by at least 2030 and progress toward the targets is measured using 13 indicators.

The targets are:

Target 12.1: Implement the 10-year sustainable consumption and production framework

Target 12.2: Sustainable management and use of natural resources

Target 12.3: Halve global per capita food waste

Target 12.4: Responsible management of chemicals and waste

Target 12.5: Substantially reduce waste generation

Target 12.6: Encourage companies to adopt sustainable practices and sustainability reporting

Target 12.7: Promote sustainable public procurement practices

Target 12.8: Promote universal understanding of sustainable lifestyles

Target 12.a: Support developing countries' scientific and technological capacity for sustainable consumption and production

Target 12.b: Develop and implement tools to monitor sustainable tourism

Target 12.c: Remove market distortions that encourage wasteful consumption

According to the United Nations Environment Programme, Sustainable Consumption and Production refers to "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and

pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations"¹

Why is it important for educational community?

Education for Sustainable Development is a comprehensive and transformative education that focuses on content and learning outcomes, pedagogy, and the learning environment. This implies that citizens need the knowledge, skills, values, and attitudes that will enable them to collaborate in sustainable development. ESD requires a transformative, action-oriented pedagogy that promotes autonomous learning, participation and collaboration, problem-solving, interdisciplinarity and transdisciplinarity and linking formal and informal learning. Only these pedagogical approaches will enable the development of the key competences necessary to promote sustainable development in the 21st century.

A concept closely related to Education for Sustainable Development and Education for Global Citizenship is that of the pedagogy of sustainability, but this is hardly mentioned in current discourses on education and learning in the context of socio-ecological sustainability and sustainable development. Teaching sustainable development issues is a challenge because it involves knowledge across multiple disciplines, and the 21st-century skills are a critical reference point for developing these ambitious profiles of knowledge and skills in students (and also in teachers) expecting that they will become future 'problem solvers', 'agents of change', and 'transition managers'. In this context, the use of ICT is fundamental in each of the 21st-century skills frameworks. The concept of learning incorporates the importance of the individual learner into the process, a focus on deep learning and the transformative power of ICT, all of which lead to the concept of personalized learning. Personalized learning requires the connecting power of ICT to develop ways of thinking and learning that liberate and empower the learner.

¹ <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

Key dimensions of Sustainable Development 12 Responsible consumption and production

For decades, scientists have been explaining the ways in which humanity is driving the three planetary crises of climate, biodiversity and pollution, all of which are linked to unsustainable production and consumption. Changes in consumption and production patterns can help to promote the decoupling of economic growth and human well-being from resource use and environmental impact. They can also trigger the transformations envisaged in global commitments on biodiversity, the climate, and sustainable development in general. From 2017 to 2020, 83 countries, territories and the European Union shared information on their contribution to the implementation of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns. In 2020, 136 policies and 27 implementation activities were reported, bringing the total number to over 700. While specific actions have been taken to improve resource use efficiency in a specific industry or area, this has not resulted in their widespread adoption across sectors and industries. Although limited data are available, as of 2016, almost 14 percent of food produced globally was lost before reaching the retail sector. Estimates vary across regions, from 20.7 percent in Central and Southern Asia to 5.8 percent in Australia and New Zealand. In 2019, the amount of e-waste generated was 7.3 kg per capita, with only 1.7 kg per capita documented to be managed in an environmentally sustainable manner. E-waste generation is expected to grow by 0.16 kg per capita annually to reach 9 kg per capita in 2030.

The annual rate of growth in e-waste recycling over the past decade was 0.05 kg per capita, which will need to increase more than tenfold if all e-waste is to be recycled by 2030. As of December 2020, 40 countries and territories had reported on sustainable public procurement policies and action plans or equivalent legal dispositions aimed at encouraging the procurement of environmentally sound, energy-efficient products and promoting more socially responsible purchasing practices and sustainable supply chains. All this hopefully is going to: by 2030, achieve the sustainable management and efficient use of natural resources, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment, substantially reduce waste generation through

health and the environment, substantially reduce waste generation through prevention, reduction, recycling and reuse, encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle, promote public procurement practices that are sustainable, in accordance with national policies and priorities, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature, support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production, develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products, rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.



The interplay between Sustainable Development Goal 12 Responsible consumption and production and the acquisition of 21st century skills

The creation of knowledge, as well as its acquisition, validation, and use, must be common to all people as part of a collective social endeavor. On the other hand, some of these skills are difficult to teach only by traditional methods, which are still effective to promote learning. These skills must be developed by individuals themselves through action based on personal experience and reflection. Incorporating SDGs into the curriculum requires systemic thinking and interdisciplinary approaches and demands pedagogical innovations that provide interactive, experiential, transformative and real-world learning. Twenty-first-century skills are different from 20th-century skills, primarily due to the emergence of highly sophisticated information and communications technologies. Organizations advocating for 21st-century skills have broadly consistent frameworks in terms of what should be added to the curriculum, although different groups place emphasis on different areas within the overall skill set. Using the P21 framework as a starting point, for example, groups focusing on technical skills, along with those that promote digital literacy can be found, emphasizing information and communications fluency through technologies as the most important. For the OECD meeting the targets of the Sustainable Development Goals, especially those related to connectivity and digital accessibility, will guarantee 21st-century skills. Thus, the OECD's 2019 Skills Outlook report points out that these skills can be reinforced by digital environments, by facilitating the construction by students of their own learning processes at their own pace. P21 also highlights life and career skills, learning and innovation skills, information skills, media and technology, as well as core curricular subjects and 21st-century themes. A key element in the application of digital technologies is design flexibility, which responds to the need to promote student-centered pedagogical methodologies..

Activity 1

Learning Tool Code	Title
SDGfP goal 12	Responsible Consumption and Production
Objectives	
<p>After the lesson students will be able to:</p> <ul style="list-style-type: none"> - understand the meaning of the terms consumption and production - name and recognize different types of waste such as household / municipal waste, hazardous waste, radioactive waste, wastewater, etc. - familiarize themselves with various ways of sorting different types of waste - research positive examples of reusing and recycling materials instead of disregarding them - apply critical thinking to offer suggestions on how to effectively decrease their own material footprint - draw parallels and respond positively to the targets and indicators set by the SDGfP goal 12 	
Activity details	
<p>Materials → see Annex</p> <p>Duration: 180 – 225 minutes</p> <p>Class size: 20 – 28 students (6th grade, age 12)</p>	
Instructions	
<p>LESSON 1</p> <p>Introduction / Engaging the students (10 – 15 mins)</p> <p>The teacher starts by asking questions such as <i>What's the last thing you've thrown away?</i> or <i>What type of materials do we discard most frequently?</i> in order to motivate them so they would engage in a conversation with him/her. A follow up question may include <i>What about kitchen appliances? Do we even try to repair them nowadays?</i></p> <p>After the first round of answers the teacher moves on to mention waste sorting with questions such as <i>How do we separate materials we don't need?</i> and <i>What do the colored garbage cans indicate?</i> A follow up question may include <i>What materials do the different colors correspond to?</i></p> <p>The teacher then focuses on the material footprint of each person with questions like <i>Is there a way to reuse some of the materials differently?</i> and <i>What materials are the most suitable for reuse?</i></p> <p>The teacher then brings the introduction to a close by administering a blank table to the students with the instructions to answer the questions and fill out the table using the Internet:</p>	

Student name:	
What are sustainable consumption and production ? Give some examples:	
What are the planet's natural resources ? Classify the main ones and give some examples:	

Research (5 – 10 mins)

After the students finish writing in their answers, the teacher calls upon a couple of them to read what they have found. Other students can chime in with additional comments or a brief discussion.

Finally, the teacher introduces one of the goals of today's lesson by stating *Today you will make a presentation where you will distinguish between the main types of waste we generate and propose ways on how to reduce your own material footprint.*

Preparation for the assignment (15 – 20 mins)

The teacher divides the students into pairs or groups of three and gives them instructions on how a quality presentation should be made (the instructions mostly include the accepted font size, the appropriate number of rows, line spacing and the position of the text and images). The teacher also gives them some examples of the titles they should use which may include:

- *What is waste*
- *The main waste types (waste paper and cardboard, waste plastic, glass waste, metallic waste, batteries, electrical equipment, difficult household waste, etc.)*
- *Preventing waste generation*
- *Reusing*
- *Sorting and recycling*

The teacher lets them know their presentation should include a quiz at the end and that the best pair or group will present their work to the rest of the class two weeks after. After this the students may begin their work.

Pair / group work (45 mins)

The students use prior knowledge to come up with the ideas and build their presentation. The teacher in the meantime shifts from group to group and gives advice on how to approach a certain topic the students chose or to help build a certain slide. The teacher takes note of the time and 5 minutes before the lesson ends reminds them to save their work so they can continue the week after.

LESSON 2

Introduction (5 – 10 mins)

The teacher asks the students if they remember the most important topics from the week before and reminds them what they are doing and why. The teacher then checks the pairs / groups from the previous week and lets them return to their saved work and continue with the presentation.

Pair / group work (35 mins)

The teacher again shifts from group to group and gives advice on how to fine tune the slides and put the finishing touches on the presentation.

Instructions on creating the quiz (5 – 10 mins)

The teacher asks the students if they remember how to build an interactive quiz inside a presentation and reminds them of the structure and how the slides should be arranged. The teacher also shows the students how the correct and wrong answers are linked with the corresponding slides.

Pair / group work (30 mins)

The students use prior knowledge to design the appropriate questions and the slides used for giving feedback. The teacher in the meantime shifts from group to group and gives advice on how to formulate certain questions and check if the slides are linked correctly.

Conclusion (5 mins)

The teacher takes note of the time and 5 minutes before the lesson ends reminds everyone to save their work and also determines which pair / group is the best. The pair / group in question is given additional instructions on how to deliver the presentation the week after.

LESSON 3

Introduction (5 – 10 mins)

The teacher asks the students if they remember the most important topics from the previous two weeks and reminds them that their colleagues have prepared a presentation for them. He/she instructs them to actively listen and jot down any potential question they might have.

Pair / group presentation (20 – 25 mins)

The best pair / group present their work to the rest of the class. They use the quiz at the end of a presentation as a fun way to check if their colleagues have been paying attention.

Conclusion (10 mins)

The teacher asks several students from the rest of the class to read their questions for the group. He/she also asks them to comment on the presentation and the quiz, thanks the best pair /group and reminds everyone of the most important topics they have learned in the previous three weeks.

Tips for the facilitator

The students should have prior knowledge of building a quality presentation, designing their own master slide theme and linking appropriate slides for the quiz portion of the presentation.

See Annex for further details.

Debriefing

The teacher can check how much the students remember about the topic by creating a questionnaire based on the presentation they watched. The activity can be planned for the week after the presentation, but it is completely optional.

Follow-up/Inspiration for the future

The students can use the knowledge acquired from the previous three lessons to create a poster or an infographic for their Art class.

References/Further reading

<http://idop.hr/hr/dop-trendovi/ciljevi-odrzivog-razvoja/o-ciljevima-odrzivog-razvoja-i-pri-mjeri-dobre-prakse/sdg12-cilj-odrzivog-razvoja-12-odgovorna-potrosnja-i-proizvodnja/>
<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>
<https://unstats.un.org/sdgs/report/2019/goal-12/>
<https://sdgs.un.org/goals/goal12>
<https://en.unesco.org/sites/default/files/resources-sdg12.pdf>

Annex

Additional documents included with the lesson plan:

- Quality Presentation Reminder

QUALITY PRESENTATION REMINDER

A presentation should be clear and concise, so ask yourself the following while building a slide:

- 1) Is the font size between 24 and 28?**
 - if not, adjust it; enlarge the text if it's too small and vice versa
- 2) Do you have between 4 and 6 rows of text?**
 - only the most important notes go on the slide; remove all non-essential lines
 - be careful: three rows or less is way too little text
- 3) Does your slide contain images?**
 - each slide should contain between 1 and 4 images
 - be careful: images should not cover text or be too large
- 4) Do you have any empty space on the slide?**
 - Increase line spacing to 1.5 or 2.0 and use larger text frames
 - do not use a larger font instead because the slide could become cluttered
- 5) Did you use animations in your presentation?**
 - text is more important than images so it should appear first
 - images come with the text or after it; do not use slides with images only
 - animated images should not obstruct the text
- 6) Do you use different slides in your presentation?**
 - the presentation will quickly become boring if you use the same slides all the time, you can change the layout of the slides so your presentation stays fresh and interesting

USUAL SLIDE LAYOUTS

We have many different ways of designing slide layouts, but they mostly concern the position of the text and images on the slide. For example, we can put the text below or above the images:



We can also position the text to the left or right of the images:



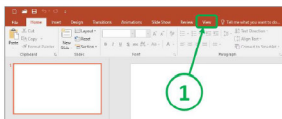
We can also use slides with two different text frames:



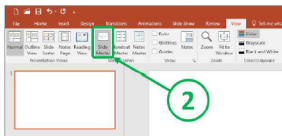
Using Slide Master

HOW TO USE SLIDE MASTER TO ADD YOUR OWN BACKGROUND

Create a new presentation and click on the **VIEW (1)** tab.

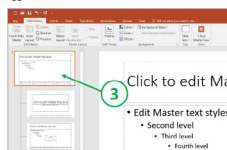


Under the **VIEW** tab click the **SLIDE MASTER (2)** button.

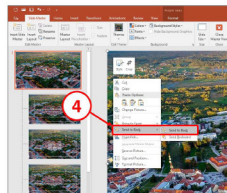


BE CAREFUL: we do not use the Slide Master to create the presentation itself. We only use it to set the background and adjust the text frames.

Click the slide on the very top of the slide panel (3). The slide in question is bigger than all the other slides.



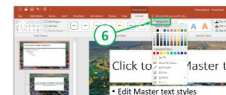
Copy and paste the image you want to use. The parts outside of the slide frame will not appear on the slide itself. Right-click the image and choose the **SEND TO BACK (4)** option to set the image as the default background.



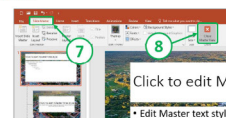
We just have to set the background color of the text frames and we're done. Click on a text frame and choose the **FORMAT (5)** tab.



Under the **FORMAT** tab click the **SHAPE FILL (6)** button and choose the color you want to use. Repeat steps (5) and (6) for other text frames.



Click on the **SLIDE MASTER (7)** tab and choose the **CLOSE MASTER VIEW (8)** button.

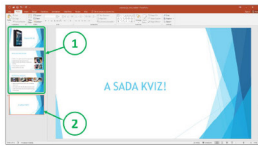


The background is all set! You may begin with building your presentation.

Creating a Quiz

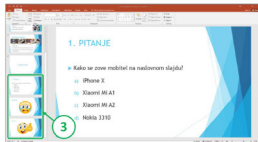
HOW TO CREATE A QUIZ

Create a new presentation and build a couple of slide with the topic of your choosing (1). Add a new title slide at the end (2).



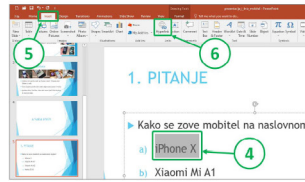
You need three slides with the following titles for each question (3):
QUESTION → WRONG → CORRECT.

Be sure to use the titles, that way it will be easier to link the slides later.

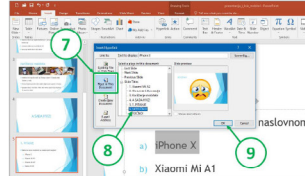


Why this particular order? The **WRONG** slide will return you to the question, while the **CORRECT** slide will allow you to proceed.

We need to link the **WRONG** and **CORRECT** answers with the corresponding slides. Select one of the **answers** (4), click the **INSERT** (5) tab and use the **HYPERLINK** (6) button:

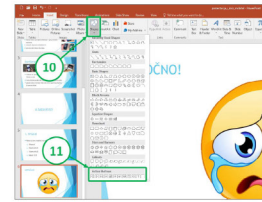


When a pop-up window appears click the **PLACE IN THIS DOCUMENT** (7) button, choose the **slide** you want to link it with (8) and click **OK** (9).

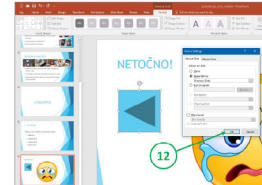


Repeat steps (4) to (9) for all the other answers.

We need to add an action button to the **WRONG** slide so the participants could return to the question. Click the **INSERT** tab and choose the **SHAPES** (10) button. Select the **BACK OR PREVIOUS** (11) action button in the bottom row:

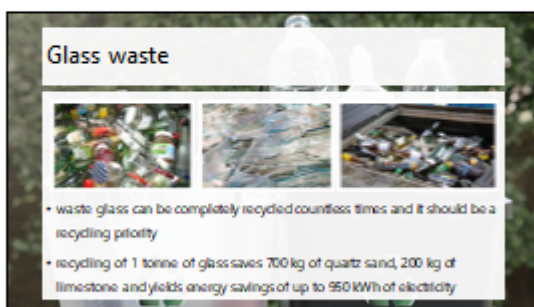
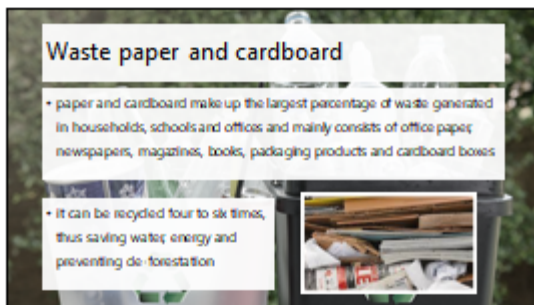
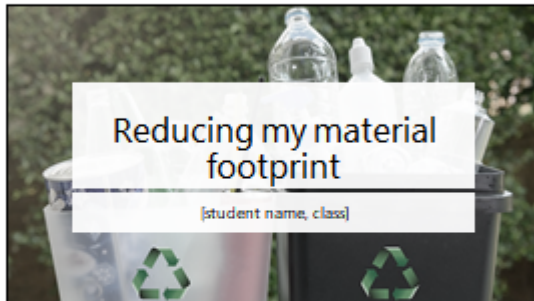


Place the action button on the slide and click **OK** (12) in the pop-up menu:



And that's it! You can add a **THANK YOU FOR PLAYING** slide as the last one.

- Reducing my material footprint (example presentation)



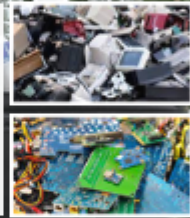
Batteries

- old and used-up batteries with household waste as they contain dangerous heavy metals such as mercury, lead and cadmium, which can pollute the environment and harm human health
- since they are classified as hazardous waste, they require a special method of disposal



Electrical equipment

- electronic waste contains many substances harmful to humans and the environment
- it is not allowed to dispose of it together with other household waste
- it also contains valuable components such as recyclable metals and plastic



Difficult household waste

- it must be collected separately as it contains hazardous substances that can endanger human and animal health, and because it poses a danger to the environment

- it consists of waste such as acids, solvents, pesticides, oils, medications, paints, adhesives, cleaning products, etc.



How can I prevent waste generation?

- here are some tips for achieving this goal:

1. instead of printing on paper we can send an e-mail or use a PDF document
2. we can use canvas bags instead of plastic or paper
3. we don't have to buy excessive amounts of food that will spoil
4. we can power our devices with rechargeable batteries

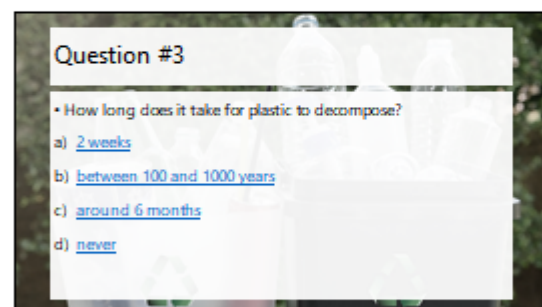
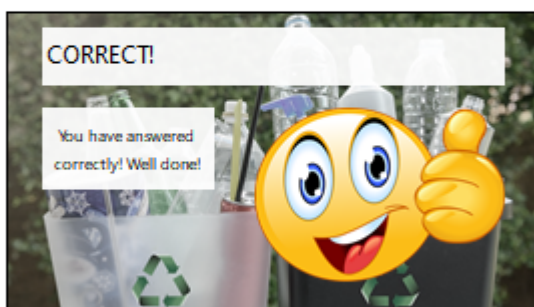
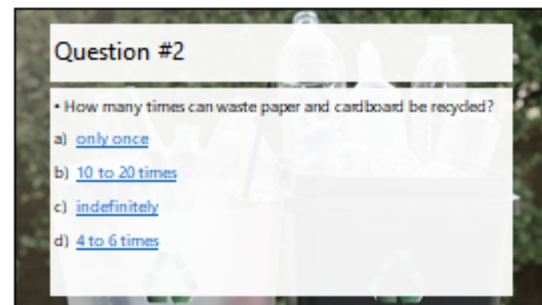
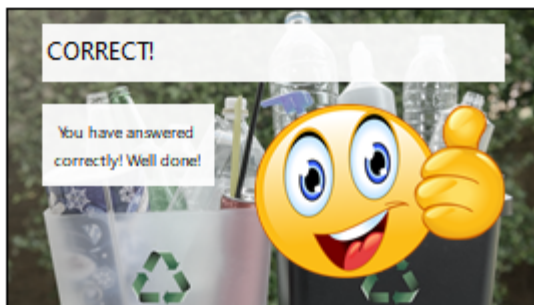
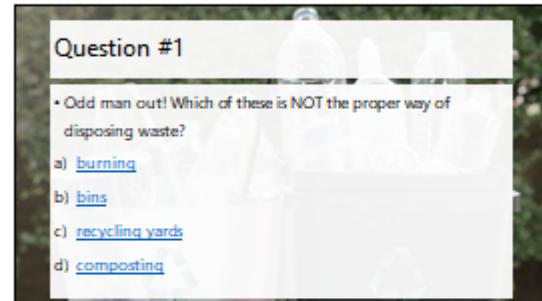
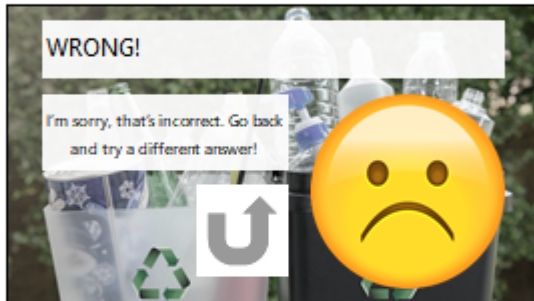
Which items can I reuse?

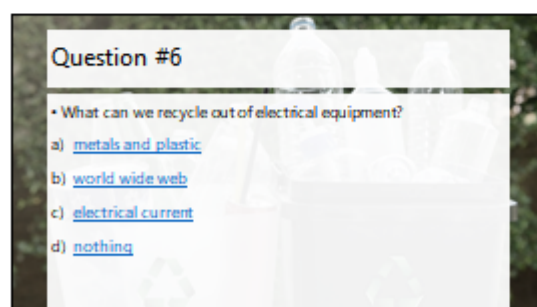
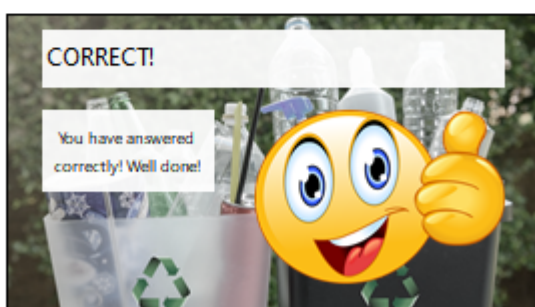
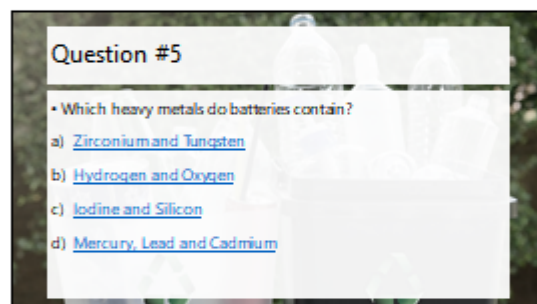
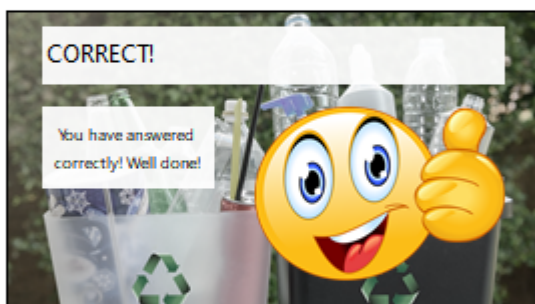
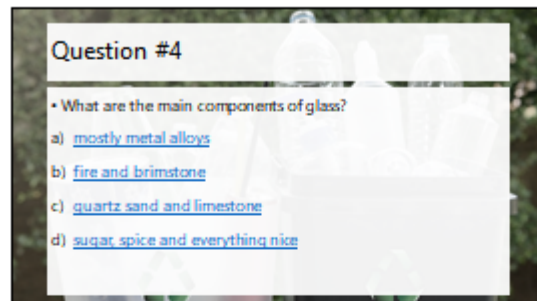
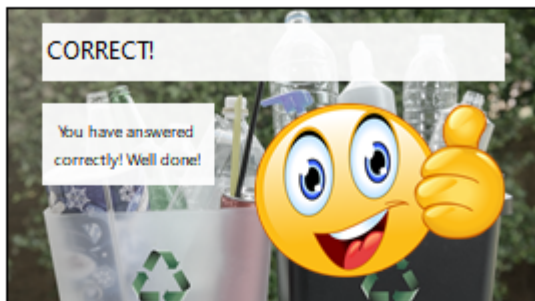
- what other purpose could old items serve – here's a few ideas:

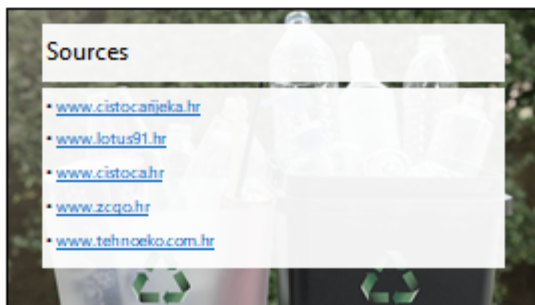
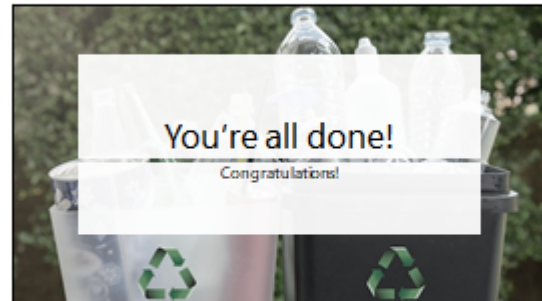
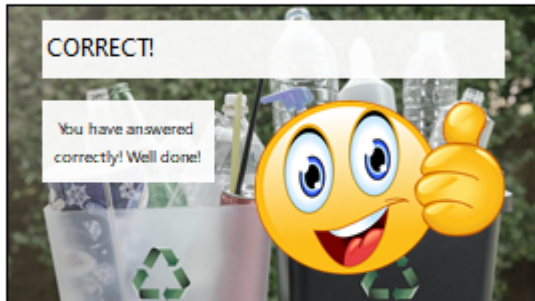
1. old newspaper can be used to wrap fragile items when moving to another home
2. cotton T-shirts can become cleaning cloths
3. a printed sheet of paper can be used for notes and drawings
4. we can give away items we no longer have use for

Quiz time!

(hopefully, you've been paying attention)







2. What environmental problems do you know?

- a) I am not familiar
- b) Air pollution
- c) Water pollution
- d) Pollution of the planet Earth

3. Do you know what recycling is?

- a) Yes
- b) No

4. What do you do to help solve an environmental problem?

- a) Nothing
- b) I use water economically
- c) I plant trees
- d) I sort the waste

After completing the questionnaire, discuss their answers.

The students are then divided into 4 groups. Each group has a specific task to research and to draw conclusions to solve the given problem.

The first group works on the topic - Efficient use of natural resources.

The second group works on the topic - Significant reduction of waste generation and its recycling and reuse.

The third group works on the topic - Healthy and ecological management of chemicals and all species during their life cycle.

The fourth group works on the topic - Strengthening the scientific and technological capacities of developing countries and focusing on sustainable consumption and production models.

Students present their findings in a class discussion with an emphasis on ecology and moderate production and consumption.

The students come to the conclusion that the planet Earth should be protected from pollution and waste, natural resources should be used rationally, the generated waste should be classified and some waste should be recycled and reused.

Tips for the facilitator

- 1) The teacher asks questions about the future of planet Earth
- 2) The teacher encourages a discussion about peoples' behaviour and countries in general to maintain the planet Earth
- 3) The teacher invites the students to share the results of the interviews in class.

Debriefing

The questioner in the groups is adapted to the age of the students

Students can also present their findings in the form of an essay.

Follow-up/Inspiration for the future

Students design posters about the importance of planet Earth, conserving natural resources and reducing the waste that pollutes it.

References/Further reading

<https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

<https://sdg-tracker.org/sustainable-consumption-production>

Annex

Sustainable Development Goal 13

Combat climate change

The UN Secretary-General has proposed six climate-positive actions that governments need to take once they begin to rebuild their economies and societies:

Green transition and decarbonisation: Investment must accelerate the decarbonisation of all aspects of our economy.

Green jobs and sustainable and inclusive growth

Green economy: makes societies and people more resilient through a transition that is fair to all and leaves no one behind.

Investing in sustainable solutions: fossil fuel subsidies must end and polluters must pay for their pollution.

Facing all climate risks

Cooperation - no country can succeed alone.

To deal with a climate emergency, pandemic recovery plans must bring about long-term systemic changes that will change the trajectory of CO₂ levels in the atmosphere.

In recent years, governments around the world have devoted considerable time and effort to developing plans to chart a safer and more sustainable future for their citizens. Getting them on board now as part of recovery planning can help the world recover better from the current crisis.

Sub-goals

13.1 Strengthening resilience and adaptability to climate change hazards and natural disasters in all countries.

13.2 Integrate climate change measures into national policies, strategies and planning.

13.3 Improving education, raising awareness and human and institutional capacity to mitigate and adapt to climate change, reduce impacts and provide early warning.

13.a Fulfillment of the commitment of developed countries that have signed the UN Framework Convention on Climate Change to jointly mobilize \$ 100 billion a year by 2020 from all sources to meet the needs of developing countries in the context of appropriate mitigation actions the implications and transparency of implementation, and the full implementation of the Green Climate Fund by capitalizing it as soon as possible.

13.b Promoting capacity-building mechanisms in the least developed countries and small island developing States for effective climate change planning and management, with a special focus on women, youth, local and marginalized communities.

Facts and statistics

- As of April 2018, 175 countries have ratified the Paris Agreement, and 168 countries have announced their first nationally defined contribution to the UN Framework Convention on Climate Change.

- As of April 2018, 10 developing countries have successfully completed and presented their first iteration of their national adaptation plans in response to climate change.



- Developed countries continue to make progress towards the goal of jointly mobilizing \$ 100 billion annually by 2020 for mitigation actions.
- Thanks to the Intergovernmental Panel on Climate Change we know:
 - From 1880 to 2012, the average global temperature increased by 0.85 ° C. To put this into perspective, for every 1 degree of temperature increase, grain yields decrease by about 5%. Maize, wheat and other major crops experienced a significant reduction in global yields of 40 megatons per year between 1981 and 2002 due to a warmer climate.
 - The oceans have warmed, snow and ice have dwindled and sea levels have risen. From 1901 to 2010, the average global sea level rose by 19 cm as the oceans expanded due to warming and the ice melted.
 - The amount of sea ice in the Arctic has been declining over the next decade since 1979, with 1.07 million km of ice loss every decade.
 - Given current concentrations and current greenhouse gas emissions, it is likely that by the end of this century the increase in global temperature will exceed 1.5 ° C compared to 1850 to 1900 for all but one scenario. The world's oceans will warm and the ice will melt. The average sea level rise is projected to be 24-30 cm by 2065 and 40-63 cm by 2100. Most aspects of climate change will continue for many centuries, even if emissions are stopped
- Global emissions of carbon dioxide (CO₂) have increased by almost 50% since 1990.
- Emissions grew faster between 2000 and 2010 than in any of the previous three decades

13 CLIMATE ACTION

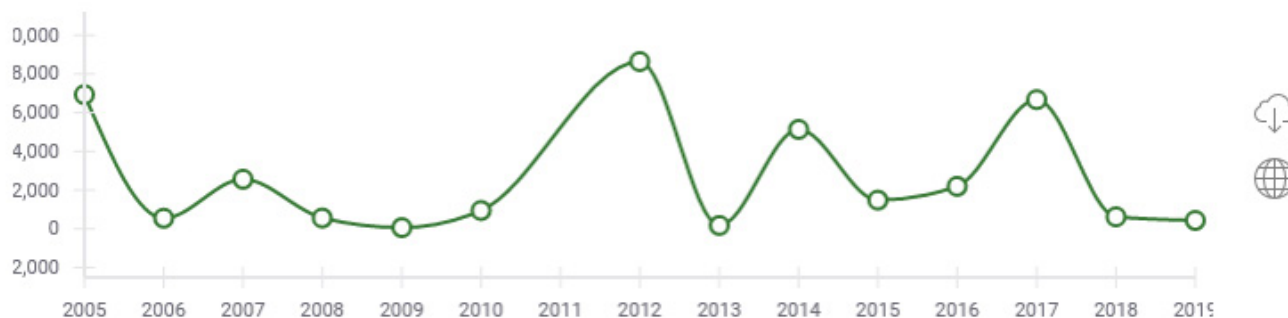


Climate Action

Take urgent action to combat climate change and its impacts.

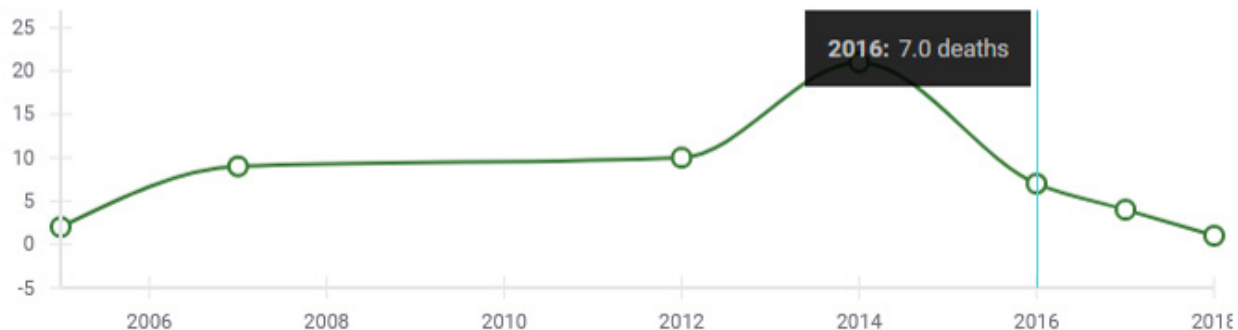
In 2019, there were **432.0** people affected by disasters.

People affected by disaster (number)



In **2018**, there were **1.0** deaths due to disasters.

Deaths due to disaster (number)



Deaths and missing persons attributed to disasters (per 100,000 population)

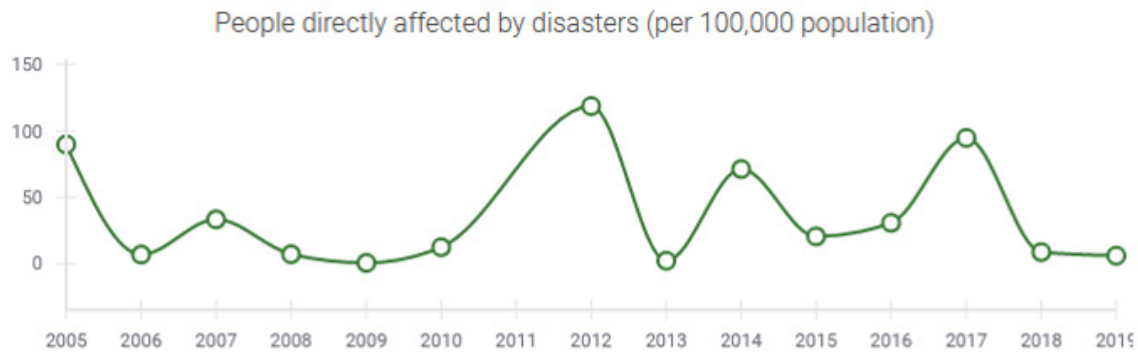


In **2018**, there were a total of **1.0** deaths and missing persons attributed to disasters.

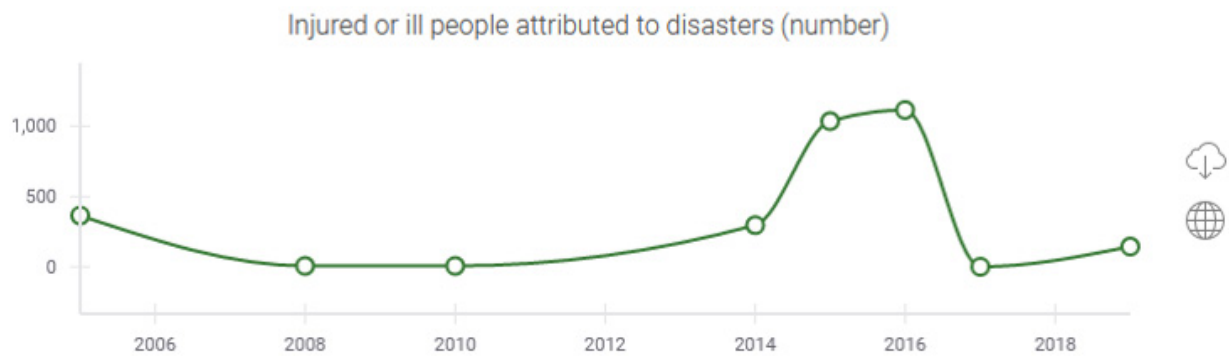
Deaths and missing persons attributed to disasters (number)



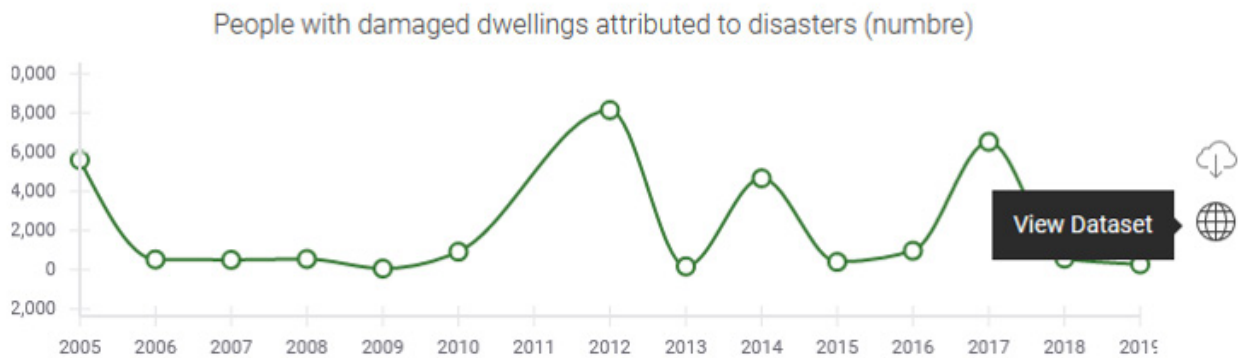
In 2019, there were **6.2** people affected by disasters per 100,000 population.



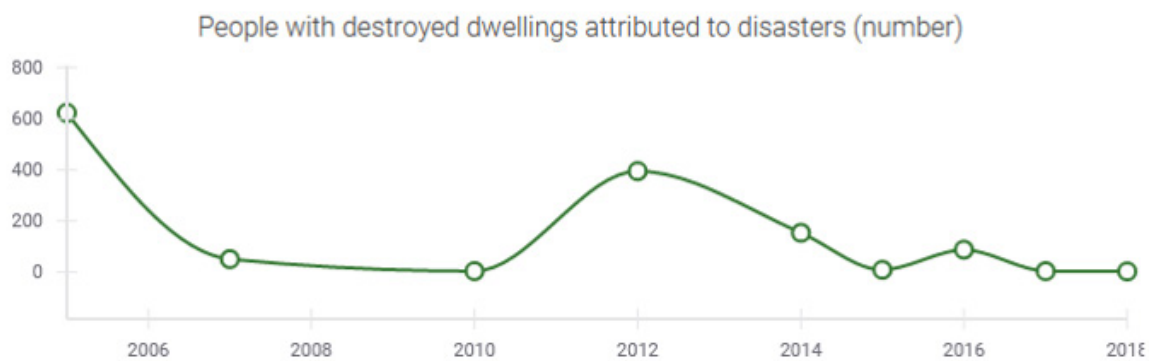
In 2019, there were **145.0** people injured or ill due to disasters.



In 2019, there were **285.0** people with damaged dwellings due to disasters.



In 2018, there were **2.0** people with destroyed dwellings due to disasters.





Developing the introduction

Overall Aim of Sustainable Development Goal 13

Take urgent action to combat climate change and its impact

Today, the greatest challenges facing humanity are climate change and declining biodiversity. In recent years, we are all already feeling the effects of the gradually increasing average atmospheric temperature. Unfortunately, these trends are likely to intensify in the future.

Scientists are of the opinion that for this purpose we must stop the warming of the Earth below 1.5 ° C compared to the beginning of the industrial revolution. To this end, the harmful emissions responsible for the greenhouse effect must be halved by 2030. Climate has always been subject to natural processes that have changed it. This is completely natural and is due to factors such as changes in sea currents, volcanic activity, the power of solar energy, natural disasters caused by hurricanes or earthquakes.

Ultimately, climate change is the result of long-term changes in weather conditions - from several decades to millions of years. When we talk about climate change for thousands or millions of years, the reason for the global warming or cooling of the planet is due to the changing orbit of the Sun. It moves according to the so-called Milankovic Cycles, which have historically caused ice ages and extremely hot global warming. What is unusual in our case, however, is that in a relatively short period of the last 150 years, the Earth's climate has changed quite significantly. For this reason, it is very important to understand well why the causes of global warming have drastically accumulated so quickly.

Quite a few studies unequivocally prove that the global average temperature has risen sharply since the middle of the twentieth century. This phenomenon is called global warming and is caused by human activity. The main culprit is the carbon dioxide emitted, the result of burning fossil fuels such as oil or coal.

Human activities are the main causes of global warming of approximately one degree Celsius compared to the pre-industrialization era. Between 2030 and 2050, the rise is likely to increase to 1.5 ° C. For many, this value will intuitively not seem so scandalous, but research is clear that such global warming has very serious consequences.

Why is it important for educational community?

Systematized on knowledge for a decade in school age for properties and effects on different precedences on time from the point of view of light and lighting devices, recognizable from history to electric crush, a dozen and so will teach and evaluate the result from the development of civilization to the reality and comprehension.

Expand on the horizon for the energy resources and culture on the energospetyavan, formiran on the skills for the energetic behavior of the environment, the student and the parents.

The development of a student on curiosity, creativity, cognitive activity and ability to use knowledge, get used to different activities and behavior.

Key dimensions of Sustainable Development 13

Climate change is affecting every country on every continent.

People are experiencing the significant impact of climate change, which includes changing climate patterns, rising sea levels and more extreme weather events. Greenhouse gas emissions from human activities are leading to climate change and continue to rise. Now they are at their highest level in history. Without action, the world's average surface temperature is expected to rise in the 21st century and is likely to exceed 3 degrees Celsius this century - some parts of the world are expected to warm even more. The poorest and most vulnerable people are most affected.

What is the purpose here?

Take urgent action to combat climate change.

Why?

Climate change is caused by human activity and threatens the way we live and the future of our planet. By tackling climate change, we can build a sustainable world for all. But we must act now.

Are people's lives really affected by climate change?

Yes. Bad weather and rising sea levels are affecting people and their property in both developed and developing countries. From a small farmer in the Philippines to a businessman in London, climate change affects everyone, especially the poor and vulnerable, as well as marginalized groups such as women, children and the elderly.

If we ignore the problem of climate change, we will turn our backs on much of the progress that has been made. Problems such as food shortages and water shortages will also deepen, which in turn can lead to conflict.

Can we solve this problem or is it too late to act?

We can certainly address climate change, but our efforts need to increase significantly. The world needs to transform its energy, industry, transport, food, agriculture and forestry as systems to limit the rise in global temperature by a maximum of 2 degrees, maybe even 1.5. We also need to anticipate, adapt and create sustainable enterprises for the current and future impacts of climate change.

The interplay between Sustainable Development Goal 13 and the acquisition of 21st century skills

Affordable, scalable solutions are offered that allow countries to move towards cleaner and more sustainable economies. The pace of change is accelerating as more people focus on renewable energy and a number of other measures that will reduce emissions and increase adaptation efforts.

Unfortunately, climate change is a global challenge that does not respect national borders. Emissions affect people everywhere. This is an issue that requires solutions that need to be coordinated at international level, and requires international cooperation to help developing countries move towards a low-carbon economy.

Activity 1

Learning Tool Code	Title
SDG13-SDGfP	CLIMATE CHANGE
Objectives	
<ul style="list-style-type: none"> ● to highlight the factors that characterize the climate, to give students an idea of its rhythmic change in the history of our planet, to determine the natural and anthropogenic causes and consequences of these changes; ● to characterize the climate of the Stara Zagora region, based on data from various sources, to identify the process of climate change in our region; ● identification of possible measures for solving problems; ● development of creativity and communication skills. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials- table "Development of life on Earth", guide - "Clock of Evolution", map of Bulgaria. Signs with the inscription "Cooling" and "Warming", cards for group work, materials for the game "Greenhouse effect". ❖ Duration – 80 minutes ❖ Number of groups - several groups of students (5 grade, ages 11-12) 	
Instructions	
<p>1. Update of knowledge.</p> <p>Students, we will now play the game "Yes - no":</p> <ul style="list-style-type: none"> - Climate is the state of the atmosphere of a place at a certain point in time (no); / 1 minute / - Weather is the state of the atmosphere of a place at a certain point in time (yes); / 1 minute / - Climate is a geographical characteristic of an area, long-term meteorological regime (yes); / 1 minute / - The climate of the region is determined primarily by latitude (yes). / 1 minute / <p>2. Putting the problem situation.</p> <p>We remembered that "climate" is by definition a geographical feature of an area, a long-term meteorological regime. Does this mean that climate is a constant, unchanging</p>	

characteristic? What do you know about global warming and climate change? What are the consequences of these processes? (Students present their hypotheses, citing evidence as examples). / 10 minutes /

3. Defining the topic of the lesson.

Today in the lesson we will recall the factors that determine the climate of the Stara Zagora region, and we will try to understand whether there is a problem with climate change in our region. To confirm our assumptions and reach common conclusions, we will work in groups (6 people)

Group 1 examines climate change and its effects on our planet's past. Group 2 will identify the natural causes of climate change.

Group 3 will show the dependence of climate change on human activity.

Group 4 will characterize the climate of the Stara Zagora region.

/ 7 minutes /

4. Joint discovery of knowledge and their application in practice.

Students, we begin the presentation of your group work. During the presentation we will answer your questions. Over time, the Earth's climate is slowly changing.

To understand what changes may occur in the future, we need to study the climate of the past.

Presentation of the work of the 1st group. Task: Using the table, note on the chronology of climate change: warming, cooling, ice ages with symbols. Make a conclusion. (Reference table example.)

N°	Monthly cycle	Features of period	Climate change
1.	Devonian	The first amphibians, mosses and horsetails	Hot, dry climate
2.	Carbon (coal)	Reptiles appear. Burning from huge plauns and ferns.	Cold
3.	Permian	About half of groups alive organisms disappear. Coniferous trees appear.	The northern hemisphere getting up getting drier and colder
4.	Triassic	Reptile dominance. appearance of	Warming

		the first mammals	
5.	Jurassic	The appearance of the first birds. The dominance of dinosaurs.	Humid climate
6.	Chalk	The appearance of flowering plants. Dinosaurs and other animals are dying out.	Cold. Warming.
7.	Neogene	Mammalian development. The appearance of humanoid creatures	cold
8.	Periods of quaternary	Mammals: rhinos, mammoths. The appearance of the first people.	Cold, glacial period, constantly warming

Students place maps of climate change on the timeline. Warming is indicated by a red semicircle, cooling by a blue triangle, and the ice age by a snowflake.

Conclusion: in the history of our planet there have been climate changes - warming, cooling, ice ages. These changes have affected the existence of the inhabitants of our planet. (Table story with timeline demonstration). The teacher can use the Evolution Clock manual. 1 hour - 150 million years, 1 minute - 2.5 million years.

/ 10 minutes /

Teacher's story: Climate research began 300 years ago. Therefore, scientists are forced to look for different ways to decipher its changes.

For example: study of plant and animal fossils; examination of tree rings; Records in ship's logs, photos, etc. also help. The cooling of the Earth is observed every 100,000 years (on our clocks - every 2.5 seconds).

Many periods of Earth's history over the last 2 million years have been characterized by severe cooling and glacier formation. The last glaciation ended 10,000 years ago. We live in an interglacial era.

For example: 18,000 years ago Northern Europe, part of Siberia, Canada, the northern regions of the United States, etc. are covered with ice sheets up to 1000 m thick. The

glacier has absorbed so much water that the British Isles were connected to Europe by land (demonstration of a map of Eurasia).

Why has the climate changed on our planet? The second group will answer this question.

/ 5 minutes /

Presentation of the work of the 2nd group. Task: identify the natural causes of climate change, fill in the table, draw a conclusion. Italic words are written by students. (Reference table example.)

N°	Reasons for cold	Notes (editing)	Reasons for warming
1.	Change of the earth orbit.		A new change in Earth's or
2.	Change to the slope of the earth os.		New change in slope on the earth's axis.
3.	Volcanic eruption.	1991 Eruption of Pinatubo peak (Philippines). The average temperature of the Earth is 5 degrees lower than usual.	Reduced volcanic activity.
4.	It's the sun less active.	The frequency of occurrence of sunspots (11 years).	The sun is active.
5.	Falling asteroids.	Tunguska meteorite (1908)	

Insertion words: a new change in the Earth's orbit, a change in the inclination of the Earth's axis, a decrease in volcanic activity, the Sun is less active.

The keyword cards are placed on the board under the words "Cooling" and "Warming".

Conclusion: Climate change can occur without human intervention due to changes in nature. / 10 minutes /

Presentation of the work of the 3rd group. Task: to show the impact of human activity on climate change. Fill in the table, study the diagrams, make a conclusion. Italic words are written by students. (Reference table example.)

No	Reasons for warming	Greenhouse gases	Answer
1	Energy production and use		The use of renewable sources of energy.
2	Industry.	Carbon dioxide, CFCs, methane, ozone.	Use of new technologies and materials
3	Agriculture		
4	Deforestation.		Recover forests.

Placement words: energy production and use, carbon dioxide, industry, CFCs, agriculture, methane, deforestation, ozone.

On the dashboard under the word "Warming" there are maps with keywords indicating the causes of warming.

Environmental pollution is related to human activity and one side of this activity is related to their heating of people. Therefore, in order to reduce the pollution of nature from this activity, people are looking for and finding new technologies and materials for their heating. One example of this is heating with sunflower husk pellets. The energy obtained from sunflower husks is very high. Recent scientific studies show that this energy can be even higher if the flakes are compressed with a high density and without moisture in their composition. This undoubtedly makes sunflower husk pellets a biofuel of the future. In comparison, burning two kilograms of sunflower husk pellets is equivalent to burning a liter of liquid fuel.

How are sunflower husk pellets produced? The sunflower husks are poured and processed in a buffer silo with a size of 300 cubic meters, from where they go to the palletizing sector. There, the flakes are pressed into cylindrical eco pellets with an average length of 10 to 30 millimeters and a diameter of 6 to 10 millimeters. The average production of a palletizing machine is 1500 kg per hour. Sunflower husk pellets have a high index of concentrated power: 4.3-4.5 kw / kg. This figure is comparable to coal and 1.6 times higher than that of wood. During the combustion of 1000 kg of sunflower husk pellets, the amount of heat released is the same

as when burning 685 liters of fuel oil / 500 liters of diesel fuel / 479 cubic meters of natural gas or 1600 kg of wood; Pellets are safe and environmentally friendly fuels. When burned, the amount of CO₂ released into the air is the same as during the natural decomposition of the biomass used to create them;

Conclusion: Human activity has a significant impact on climate change.

/ 10 minutes /

Presentation of the work of the 4th group. Task: to characterize the climate of the Stara Zagora region. Connect the beginning and end of the phrase with lines.

1 Average winter temperature From +2 degrees.

2 Summer rains. 650 mm.

3 Average temperature in summer. +27 to +42 degrees

The students invent a story about the climate of our region.

Conclusion: Stara Zagora is located in a transitional continental area with influence from the Mediterranean Sea. In winter, the weather is milder and warmer than the cities in the Thracian lowlands, as Sredna Gora protects from the cold northern and northeastern winds.

/ 10 minutes /

Summary of the lesson. According to various studies from the middle of the 19th century, the average annual temperature began to rise. An increase in temperature was also noted in Stara Zagora. Our planet is about to enter the next ice age. Maybe this will happen in the next millennium. However, due to the greenhouse effect, warming is observed. What does our planet and our earth expect in the future?

/ 3 minutes /

Setting homework assignments. Students are divided into groups:

1st group - environmentalists, will determine the possible consequences of warming;

2nd group - geographers, will reveal the peculiarities of the geographical location of our region;

3rd group - economists, will talk about the development of the Stara Zagora region;

4th group - physicists - inventors of new technologies.

Each group receives an extended task (search and analysis of information, drawing conclusions). The teacher coordinates the work of the children, the students prepare for the presentation - the defense of their projects.

/ 5 minutes /

Tips for the facilitator

According to various studies from the middle of the 19th century, the average annual temperature began to rise. An increase in temperature was also noted in Stara Zagora. Our planet is about to enter the next ice age. Maybe this will happen in the next millennium. However, due to the greenhouse effect, warming is observed. What does our planet and our earth expect in the future?

Debriefing

Setting homework assignments. Students are divided into groups:

1st group - environmentalists, will determine the possible consequences of warming;

2nd group - geographers, will reveal the peculiarities of the geographical location of our region;

3rd group - economists, will talk about the development of the Stara Zagora region;

4th group - physicists - inventors of new technologies.

Each group receives an extended task (search and analysis of information, drawing conclusions). The teacher coordinates the work of the children, the students prepare for the presentation - the defense of their projects.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.youtube.com/watch?v=LxgMdjyw8uw>

Annex

N°	Monthly cycle	Features of period	Climate change
1.	Devonian	The first amphibians, mosses and horsetails	Hot, dry climate
2.	Carbon (coal)	Reptiles appear. Burning from huge plauns and ferns.	Cold
3.	Permian	About half of groups alive organisms disappear. Coniferous trees appear.	The northern hemisphere getting up getting drier and colder
4.	Triassic	Reptile dominance. appearance of the first mammals	Warming
5.	Jurassic	The appearance of the first birds. The dominance of dinosaurs.	Humid climate
6.	Chalk	The appearance of flowering plants. Dinosaurs and other animals are dying out.	Cold. Warming.
7.	Neogene	Mammalian development. The appearance of humanoid creatures	cold
8.	Periods of quaternary	Mammals: rhinos,mammoths. The appearance of the first people.	Cold, glacial period, constantly warming

N°	Reasons for cold	Notes (editing)	Reasons for warming
1.	Change of the earth orbit.		A new change in Earth's or
2.	Change to the slope of the earth os.		New change in slope on the earth's axis.
3.	Volcanic eruption.	1991 Eruption of Pinatubo peak (Philippines). The average temperature of the Earth is 5 degrees lower than usual.	Reduced volcanic activity.
4.	It's the sun less active.	The frequency of occurrence of sunspots (11 years).	The sun is active.
5.	Falling asteroids.	Tunguska meteorite (1908)	

No	Reasons for warming	Greenhouse gases	Answer
1	Energy production and use		The use of renewable sources of energy.
2	Industry.	Carbon dioxide, CFCs, methane, ozone.	Use of new technologies and materials
3	Agriculture		
4	Deforestation.		Recover forests.

Activity 2

Learning Tool Code	Title
SDG 13 - SDGfP	
Objectives	
<ul style="list-style-type: none"> ● To develop interest in a dozen problems for saving energy resources and forming the beginning of the skill of their rational use. ● A form present for a decade in an electricity preschool where it is "live" like entering a housewife and creeping people. ● Let's reminisce about ten minutes from the past and really shine a light on the device, from the process to their transformation by man. ● Activation of the basis and cognitive activity, intellectual ability, ability to objectify facts, phenomena, composition and analysis, mental activity, creative abilities. ● Include a preschool decade in the usefulness of energy activity. ● Acquiring a level of professional competence, enriched with knowledge about the current issue of the energy market. ● Enhancing performance design organizing skills from toddler to preschool age. ● Made in conditions of recognition of a student with energy resources through the enrichment of the environment for the development of subjects and a system of killing by the student, technical parents and social organizations ● Encouraged, they showed interest in building energy sources for working with children, for their participation in joint activities. ● Yes, delegating the pedagogical competence to the parent and enriching the technology, educational experience and preparation for the reconciliation of the parent-child relationship. ● Igniting the knowledge of energy resources, the deterrent attitude towards consumption is of energy resources. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials- charter flowers, knives, sculpted, materials ❖ Duration – 56 minutes ❖ Number of groups - several groups of students <ul style="list-style-type: none"> - (5 grade, ages 11-12) 	

Instructions

Hello dear friends! Look around you. How many familiar and comfortable things surround you! You woke up this morning - you turned on the lights in the room and a delicious breakfast is already being prepared on the stove. If necessary, turn on the TV or computer, listen to the washing machine in the bathroom, or mom prepares a delicious omelet with a mixer. In the evening your house will be lit with light bulbs! And all this thanks to electricity!

Today, many people still use incandescent lamps, compact fluorescent and LED lamps to illuminate the premises. Did you know that incandescent bulbs make people burn coal? The fact is that incandescent lamps consume a lot of electricity. And the more electricity needed, the more coal must be burned in a thermal power plant to produce electricity. The more coal-fired power plants burn, the more greenhouse gases (carbon dioxide) are released into the atmosphere and the stronger the greenhouse effect will be.



You probably know that the greenhouse effect is a phenomenon in which carbon dioxide, along with other gases, creates a dense "blanket" above the ground. The sun's rays easily penetrate it, warming our planet, but this heat is difficult to return. Thus, the Earth is warming more and more, which leads to changes in weather: droughts, hurricanes, floods, namely - global warming.

/ 5 minutes /

Our city - Stara Zagora is located near the TPP - Maritsa East, which is one of the sources of air pollution and global warming. So we decided to tell the townspeople how replacing

old incandescent lamps with new compact fluorescent and LED lamps can help reduce the destruction of the atmosphere.

First, we made our own environmental campaign brochures.

/ 2 minutes /

The problem with the greenhouse effect excites us so much that together we created a real ecological fairy tale "Svitlik and Lumik are in a hurry to help":

Svitlik is a small LED lamp and Lumik is a fluorescent lamp. They really want people to stop using incandescent bulbs. For this purpose they visited the students:

1-student:

- A loud bell rang in the hallway for everyone,
- Ecology brings our students to a lesson. unknown:
- What does this science study?

2nd student:

- Organisms on Earth. How do they live, interact on our blue planet?

How it is necessary to live in the world in order not to lose the environment. So that we can breathe freely and drink clean water!

3rd student:

- Now in Stara Zagora, Bulgaria and on the whole planet there are almost no places that one would not change. Through his activity he ruthlessly destroys the atmosphere, thanks to which life exists.

4-student:

K-The more coal people burn, the more carbon dioxide will be released into the atmosphere. This gas, along with other gases, creates a dense "blanket" over the Earth.

Unknown:

- Of course! So let's talk now. What do children know? Driving:

-The heroes of the fairy tale are already in a hurry to visit us and really want to help all people save the Earth from global warming.

/ 10 minutes /

Incandescent lamps:

1-lamp: -And what will we do? We are warm, touch!

Don't drive us to the yard, calm down, come to your senses!

2-lamp: -We have been living very peacefully with you at school for so long. We give light from morning to noon on a gloomy day.

Science Ecology:

-Cunning lamps, don't be stupid! You are warming your sides! The atmosphere worries you not one, not two years!

People burn coal, lose the world to your joy.

And pollute the planet - from now on I will not let you!

atmosphere:

-I, the atmosphere of the planet, will not suffer from you, because new safety lamps will now illuminate the classroom!

6th student:

- Svetlik with Lumik friends! Our class will live with you.

We will use you for eleven years in a row! Light:

-Thank you sincerely, we will help you.

So let both adults and children live safely! Lumik:

-We will shine for a long time, we promise everyone. Tell us about us at home - we will visit every house! driving:

-Dear, Svitlyk and Lumik, you are so useful. The residents of our city need to know about you.

Incandescent lamps:

-And what to do? Who needs us?

7th student:

And to you, Incandescent Lamps, we can offer another interesting job! We will dress you nicely and hang you on the Christmas tree. From now on, every year you will decorate people's winter holidays.

Incandescent lamps:

-Hurray, we agree, we agree! Svitlik and Lumik:

Children, thank you for your help. We promise you that we will serve in your homes for a long time and we will not cause destruction of the atmosphere.

Svitlyk and Lumik helped us make various changes from old incandescent lamps!

/ 12 minutes /

And for you, Svitlyk and Lumyk have prepared a task:

Solving the environmental problem.

Replacing 1 incandescent lamp with 1 LED lamp is equivalent to planting 45 trees. How many trees will be equivalent to replacing 2 incandescent lamps with 2 LED lamps?

solution: 90 TREES

/ 5 minutes /

Tips for the facilitator

Today, society faces a very important task - to change the stereotype in the minds of every citizen that natural energy resources are inexhaustible. It's hard to change the way adults think. But the preschool child can be helped to learn the basics of ecological culture, careful and caring attitude to the wealth of the earth, to everything that surrounds him. Give ideas to change people's thinking.

Debriefing

Creating brochures and cards for the environmental campaign.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

https://www.youtube.com/watch?v=yiw6_JakZFc

Annex



Sustainable Development Goal 14

Life under water

Objective 14: Conservation and sustainable use of the oceans, seas and marine resources for sustainable development.



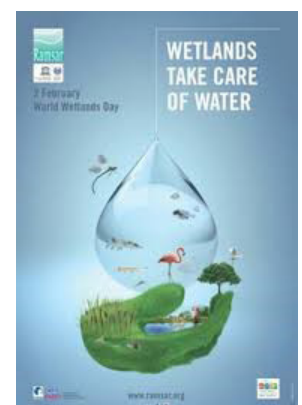
The ocean drives global systems that make the Earth habitable. Our rainwater, drinking water, weather, climate, coastlines, much of our food, and even the oxygen in the air we breathe are ultimately provided and regulated by the sea.

Careful management of this key global resource is a key feature of a sustainable future. There is a continuous deterioration of coastal waters due to pollution, and the oxidation of the ocean has a devastating effect on the functioning of ecosystems and biodiversity. This also has a negative effect on small-scale fishing.

Saving our ocean must remain a priority. Marine biodiversity is crucial to human health and our planet. Marine protected areas must be managed efficiently and have sufficient resources and provisions must be put in place to reduce overfishing, marine pollution and ocean acidification.

Facts and statistics

- The oceans cover three-quarters of the earth's surface, contain 97 percent of the earth's water and make up 99 percent of the planet's living space by volume.



Sub-goals

14.1 Prevent and significantly reduce, by 2025, marine pollution of all kinds, in particular from land-based sources and activities, including the reduction of marine litter and nutrient pollution.

14.2 Achieve sustainable management and protection of marine and coastal ecosystems by 2020 with a view to preventing significant adverse impacts, including by strengthening their resilience and taking action to restore them, with a view to turning them into healthy and productive seas and oceans.

14.3 Minimize and address the effects of increasing ocean acidity, including through enhanced scientific cooperation at all levels.

14.4 Achieve by 2020 effective regulation of fish production and eradication of overfishing, illegal, unreported and unregulated fishing, and destructive fishing practices, implementation of science-based fisheries management plans to restore fish stocks as soon as possible until at least the levels allowing maximum sustainable yield determined by the biological characteristics of the species concerned.

14.5 Protect by 2020 at least 10% of coastal and marine areas in accordance with national law and international law and on the basis of the best available scientific information.

14.6 Introduce by 2020 a ban on certain forms of subsidies for the fisheries sector that contribute to overcapacity of fishing fleets and overfishing, eliminate subsidies contributing to illegal, unreported and unregulated fishing, and refrain from introducing such new subsidies. Recognizes that appropriate and effective, special and differentiated treatment of developing and least developed countries must be an integral part of the negotiations within the World Trade Organization on subsidies for the fisheries sector.

4.7 Increase by 2030 the economic benefits for small island developing States and the least developed countries of the sustainable use of marine resources, including through the sustainable management of fisheries, aquaculture and tourism.

14.a Increasing scientific knowledge, developing research capacity and marine technology transfer, taking into account the criteria and guidelines of the Intergovernmental Oceanographic Commission on marine technology transfer, with a view to improving ocean health and governance and enhancing the contribution of marine biodiversity for the development of developing countries, in particular small island developing States and the least developed countries.

14.b Ensuring access to marine resources and markets for fishermen engaged in traditional small-scale and subsistence fishing.

14.c Enhancing the conservation and sustainable use of the oceans and their resources through the application of international law as reflected in the United Nations Convention on the Law of the Sea (UNCLOS), which provides the legal framework for the conservation and sustainable use of the oceans and their resources. paragraph 158 of the document "The future we want".



14 LIFE BELOW WATER



Life Below Water

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

2.9 thousand square km

The extension of protected marine area was **2.9** thousand square km in **2018**.



8.1 %

In **2018**, **8.1** % of the marine environment under national jurisdiction (up to 200 nautical miles from shore) was under protection .



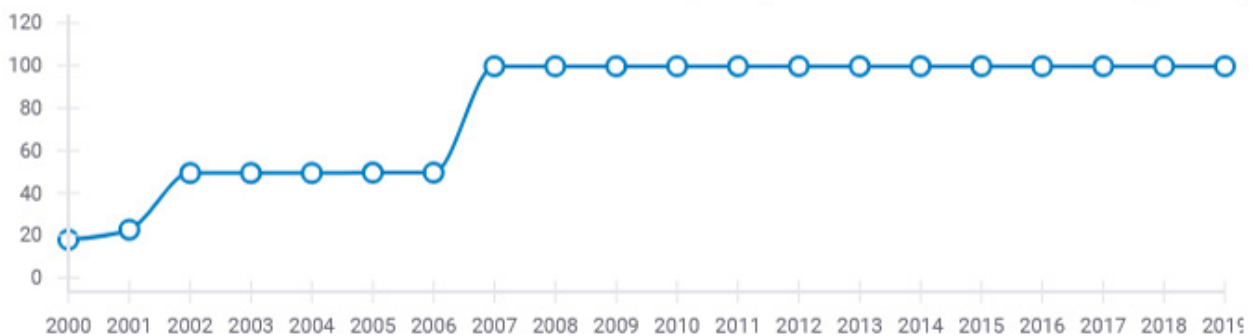
8.1 %

In **2018**, **8.1** % of the marine environment under national jurisdiction (up to 200 nautical miles from shore) was under protection .



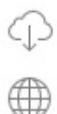
The average proportion of Marine Key Biodiversity Areas (KBAs) covered by protected areas increased from **18.0** % in **2000** to **99.7**% in **2019**.

Average proportion of Marine Key Biodiversity Areas (KBAs) covered by protected areas (percent)



0.1 %

The share of national ocean science expenditure in total research and development fundings was **0.1** % in **2017**.





Developing the introduction

Overall Aim of Sustainable Development Goal 14

Underwater life - Sustainably conserve and use the oceans, seas and marine resources for sustainable development.

Plastic pollution has long been not only on the surface of the earth, but also in water and air. However, the seas and oceans are the most affected by millions of tons of human waste. Cases of dead animals are becoming more frequent, and in huge marine mammals they find a terrible amount of plastic, which is the probable cause of their death.

Over time, fish and terrestrial animals that eat fish will also starve and die as fish supplies decline. The more water is affected by pollution, the more likely it is to have an effect on the entire food chain. Soon waterfowl such as pelicans and others. they will begin to die, and terrestrial animals as alligators will also begin to die. There are so many other creatures that rely on water sources than just the fish that live there that it can sometimes be hard to think of all of them. Entire habitats and ecosystems are being destroyed by this type of pollution

Water pollution is now destroying entire ecosystems around the world. Wetlands are disappearing due to sediment pollution, and the oceans are heavily polluted because all kinds of waste and garbage are dumped. The more we pollute our water sources, the less likely we are to continue to see all the different habitats and ecosystems that once existed on the planet. And when the habitats disappear, the animals that once lived there will also disappear - or have to be relocated. Waste ingested by aquatic creatures can kill or cause serious damage very quickly. Some creatures that inhabit water are even known to have debris in their bodies or shells over time. This is the sad truth about the water-polluted world we live in.

Why is it important for educational community?

Human activity usually leads to pollution of water basins - oceans, seas, lakes, rivers, groundwater and other bodies of water. Water pollution is any change in the physical, chemical or biological properties of water that will have a detrimental effect on any living organism.

Heavy metals from industrial processes can accumulate in nearby lakes and rivers. They are as toxic to marine life as fish and mussels and can affect the rest of the food chain. This means that entire animal communities can be severely affected by this type of pollutant.

Industrial waste often contains many toxic compounds that harm the health of aquatic animals and those who eat them. Some toxins affect the reproduction of marine animals and therefore can disrupt the structure of the aquatic environment.

Sewage microbial contaminants often lead to infectious diseases that infect underwater and terrestrial life through drinking water. This often increases the number of deaths observed in the environment.

Organic matter causes an increase in aerobic algae and depletes oxygen from the water column. This is called eutrophication and causes suffocation of fish and other aquatic organisms.

Sulfate particles from acid rain change the pH of water, making it more acidic, damaging marine life in rivers and lakes and often leading to the death of living organisms in the environment.

Suspended particles can often reduce the amount of sunlight entering the water, disrupting the growth of photosynthetic plants and microorganisms. This has a subsequent negative effect on the rest of the aquatic inhabitants, which in turn depend on the survival of these organisms.

It is important for the development and education of students through environmental activities and lessons to save the oceans and seas from pollution and protection of their flora and fauna. Students need to know which human activities lead to the pollution of the seas, oceans, rivers.

Key dimensions of Sustainable Development 14

Accelerate the ecological transition

The COVID-19 pandemic reminded us that the well-being of humans - and, more broadly, of all living things - depends on nature. Biodiversity, ecosystems and their fragile balance must be preserved. Activities in the field of water, waste and energy are directly related to the natural environment (air, water and soil) and contribute to the protection of the environment, especially by purifying water from rivers and limiting soil pollution.

Water purification in the natural environment through wastewater treatment and protection of plants and wildlife.

Reuse of wastewater in order to protect resources and the aquatic environment: in regions where there is a shortage of water, recycle wastewater to ensure long-term drinking water supply;

After purification, this water is used in the production processes of local industry.

Collection and reuse of plastics in the fight against land and water pollution and climate anomalies, turning waste into resources.

Recycling of hazardous waste to prevent pollution of the natural environment (air, water and soil) by the strongest pollutants: producers to limit their impact on the environment as much as possible, for example when closing mines.

Use low-carbon solutions to reduce greenhouse gas emissions that fuel climate anomalies and destroy biodiversity.

Developing composting of organic waste to enrich the soil in an environmentally friendly way: compost from urban waste to make soils more fertile.

Restoration of ecosystems for protection of the natural environment, adaptation to the consequences of climate anomalies (such as floods or droughts) and protection of the resources that nature offers us (water, air, food, etc.): water quality improves and biodiversity is restored .

Designing ecological areas to address environmental and social issues and contributing to the well-being of communities.

The interplay between Sustainable Development Goal 14 and the acquisition of 21st century skills

The European Union Water Directive states that rivers, lakes and other bodies of water must be protected and their status improved quantitatively and qualitatively. Among the most important tasks set out in the Water Framework Directive are the elimination of pollution, the protection of drinking water resources through sustainable management, the reduction of the negative effects of floods and droughts, the prevention of future deterioration and the improvement of current water and wetland status. zones. Coordinated efforts at the global and national levels are needed to achieve these goals: from governments, municipalities and businesses. If we do not take any action, we will only appreciate the value of ecosystem services when we can no longer to take advantage of them. An example in this regard is the drying up of wetlands and their separation from rivers to be converted into agricultural land.

Activity 1

Learning Tool Code	Title
SDG14-SDGfP	In the realm of the goldfish
Objectives	
<ul style="list-style-type: none"> ● Development and education of students through environmental activities. ● To summarize and systematize the students' knowledge about the representatives of aquatic animals; ● Strengthening the skills for ecological behavior while you are on the river (dam); ● To develop the ecological culture of the students, creativity and artistic taste, memory, attention, ability to work independently with literature, ability to analyze and find a way out of problematic situations; teaches joint and independent work; the ability to listen to others; develop the emotional and sensory sphere; artistic abilities. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - globe, pictures of fish from the area in which we live ❖ Duration - 40 minutes ❖ Number of groups - several groups of students - (5 grade, ages 11-12) 	
Instructions	
<p>The course of the lesson</p> <p>3 min.</p> <p>If you quickly rotate the globe (show it), it will appear to be the same color - blue. And the blue, as you know, depicts ... (water), without which no one can and has anything to replace it.</p> <p>- <i>What role does water play in the life of plants, animals and humans?</i></p> <p>(Water is one of the most important substances for humans. His body consists of more than half water. Without food a person can live more than a month, and without water - only a few days. Plants wither and die. If animals are deprived of water, die quickly.)</p> <p>- <i>Where is the water on the globe?</i></p> <p>(Water - in oceans and seas, rivers and lakes, underground and in the soil).</p>	

- Water overcomes drought, revives deserts, increases the yield of gardens and fields. But it not only gives water to everyone, the waters are rich in various living organisms.

Including the rivers of our region.

Show the largest on the map. (Working with a map).

But what aquatic inhabitants live in these rivers, let's see.

(A scene from the fairy tale "About the Goldfish" is recreated.) - 3 min.

Author. Once upon a time on the bank of the largest river in the region of Stara Zagora lived an elderly man with an old woman. Once the old man threw his net into the river.

Downloaded the network ...

An old man (wonders and lists aloud the content of the "catch" on the net). I found mud, rusty cans, broken bottles, torn plastic bags and other debris on the net.

Author. (Threatening). He threw the net for the second time. Downloaded the network ...

Old man (sadly). I have a torn shoe and a worn tire on my net.

Author. (with hope). For the third time, he threw the net. Downloaded the network ...

Old man (joyfully). There is a fish in my net. And not just any fish, goldfish ...

Author. The fish spoke in a human voice and asked the old man.

Fish. (Obviously). Don't let me into the river, old man. I was left alone there, all my friends were killed or poisoned.

(The fish addresses the children in the class).

You know, it became difficult to live in the river (lake, dam). Ah, my fate is cruel - I have nowhere to hide from the sewers! Everyone throws their waste in the water.

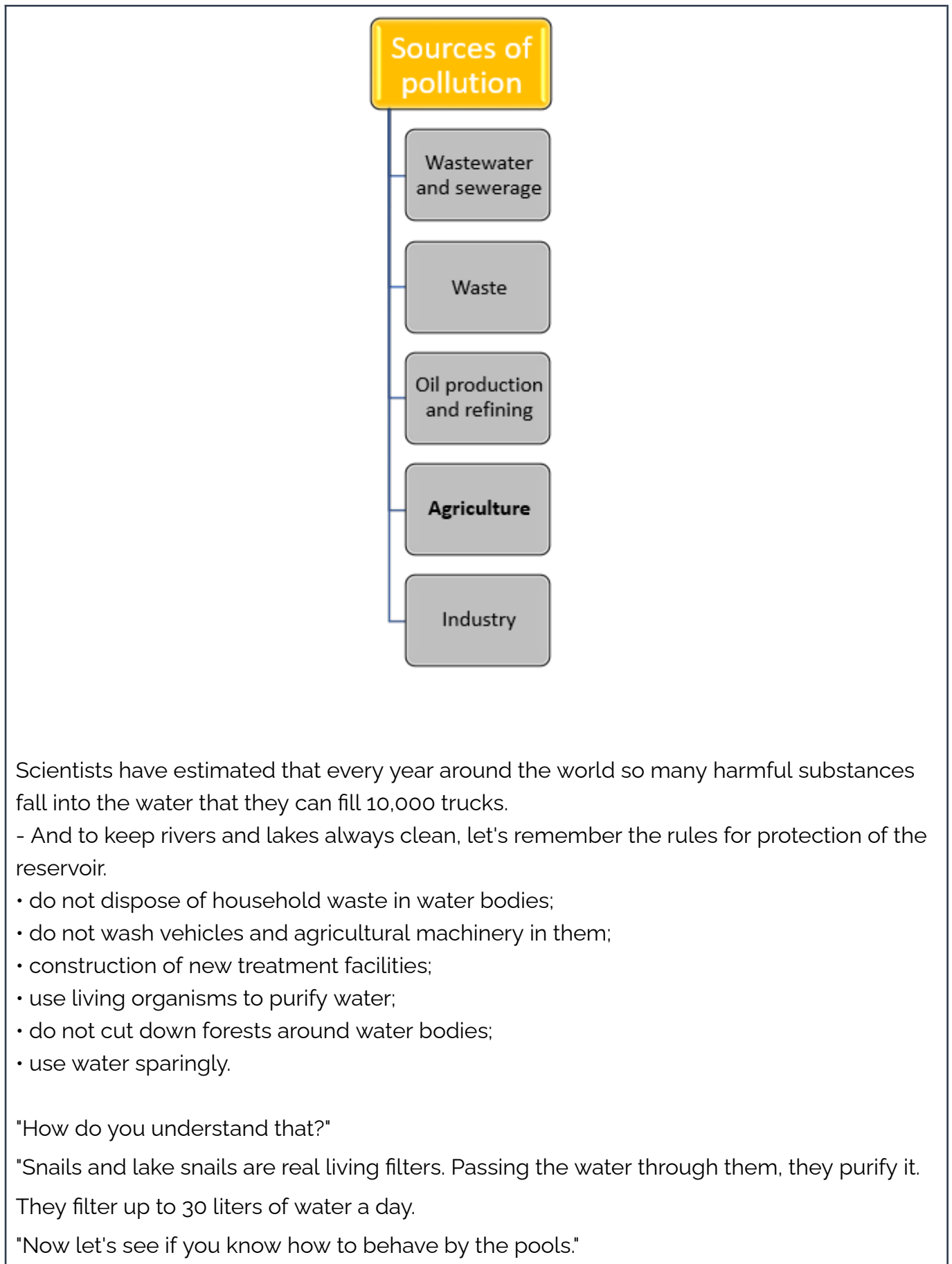
I lived in a clean river and was known as a beauty.

And now my beauty has faded because of the diesel oil in the water.

I have changed. It's as if I haven't cared for 200 years, I'm all stained with paint and dirt in the water ...

Oh, and I'm unlikely to survive! Help me, please!

Teacher: Students, why do you think there are dirty rivers and lakes? - 4 min. What sources of water pollution do you know?



I will read you sentences that I want you to answer if you agree: "This is me, these are all my friends." If you do not agree, be silent. - 2 min.

Who, when he came to the lake, uprooted the water lilies?

Who throws bottles and pollutes the lake?

Who disturbs the peace of the ducks?

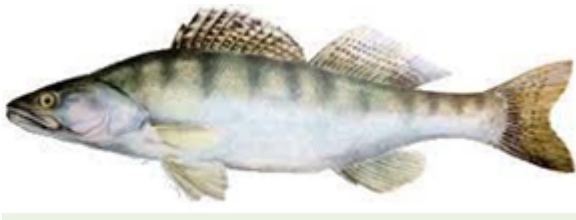
Who guards the snails?

Who catches small fish and throws them to the cat?

Who guards the snails?

- Well done, now I'm sure you will behave properly when you go to the river (lake, dam).

Students, in the kingdom of the Goldfish there are many subjects, fish are the most numerous class of them. List what fish you know living in the waters of our area.- 3 min.



Whitefish



Carp



Catfish



Maple



Redfin



Barbell



Bleed





Karakuda



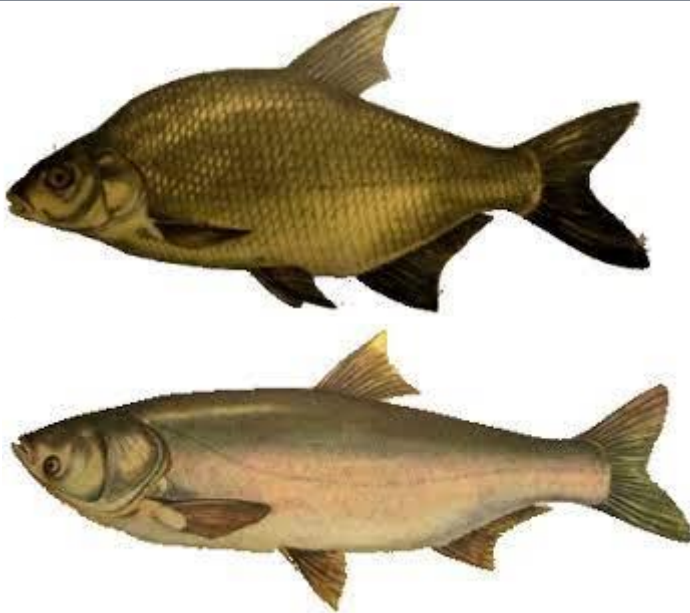
Cupid



Perch



Pike



Bream und Tolstolob

Students, what do you know about fish?

(Student report accompanied by a presentation). - 5 min.

2 min. -Teacher: You've probably heard that sea turtles can be hurt if they swallow plastic bags floating in the ocean, or that fish and birds can be hurt by the plastic and contaminants that are in the water. All this is very true, but there is much more damage than that. Fish and other aquatic organisms can fall prey to garbage cans floating in the water - suffocate or become entangled in them. Waste ingested by aquatic creatures can kill them very quickly or cause them serious harm. Some creatures that inhabit the water are even known to have debris in their bodies or shells over time. This is the sad truth about the water-polluted world we live in.

There are so many things we need to consider to solve the problem of water pollution and how it affects aquatic life. This is a question we all need to address, because it will affect us - and it has already begun, whether we realize it or not. If we do nothing to solve the problem of water pollution now, aquatic organisms could be in serious danger for the next 10 years. Whole species will disappear from the Earth forever, and this will affect the food chain in such a way that it will turn against humans.

4 minutes - To summarize:

Water pollutants kill smaller aquatic organisms.

1. Water pollutants kill smaller aquatic organisms.
 2. Water pollutants kill bugs and other smaller creatures that live in water.
 3. When smaller fish die, larger fish have nothing to eat and will eventually starve as well.
 4. Over time, birds and terrestrial animals that eat fish will also die of starvation because fish are declining.
 5. Entire habitats and ecosystems are destroyed by this type of pollution.
 6. Fish can be poisoned with heavy metals.
 7. Aquatic organisms may be affected by these pollutants.
- Disciples, our goldfish is sad, she is bored all alone in her kingdom. Let's bring her friends back. We will make them with our own hands.

(Music sounds. The children work. Individual help from the teacher.)

20 min.- Let's make a crab: For the cute little red crab, you need egg cartons(for the tongs and the body of the crab). They are wrapped in red crepe paper (maybe a red napkin), and for the feet for used red pipe brushes. The clips are attached to the front legs and here is a cheerful. Rache - eight- legged. All you have to do is add eyes and a smile.



Pipe brushes



Eggshells



20 min.- To make fish from colored paper:

<https://www.youtube.com/watch?v=EUVoykOp5pl>

- If you think your job is done correctly, without mistakes, then take a white fish, and if you think there are some flaws, take a blue fish.

- Goldfish, you are happy now, will you stay with us?

Gold fish .

The people of my kingdom have no idea how to live when the water is very dirty. You live on land and you think that the Earth is the best home.

- If you look at the river and it seems that only blue water flows in it, but this is not the case. If you dive into it with a mask and snorkel you will see that there is a cancer. A huge pike swims like a rocket ... The river doesn't just flow and flow. She lives an interesting life!

Thank you for your help. I loved it!

Tips for the facilitator

1. Water pollutants kill smaller aquatic organisms.
2. Water pollutants kill bugs and other smaller creatures that live in water.
3. When smaller fish die, larger fish have nothing to eat and will eventually starve as well.
4. Over time, birds and terrestrial animals that eat fish will also die of starvation because fish are declining.
5. Entire habitats and ecosystems are destroyed by this type of pollution.
6. Fish can be poisoned with heavy metals.
7. Aquatic organisms may be affected by these pollutants.

Debriefing

Students to make other aquatic animals and make an exhibition.

Follow-up/Inspiration for the future

Information on social media, school website.

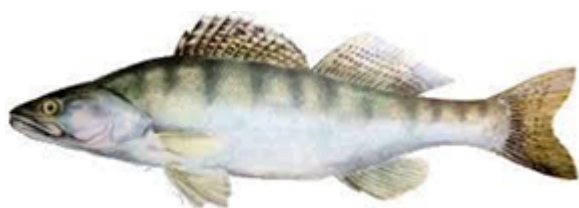
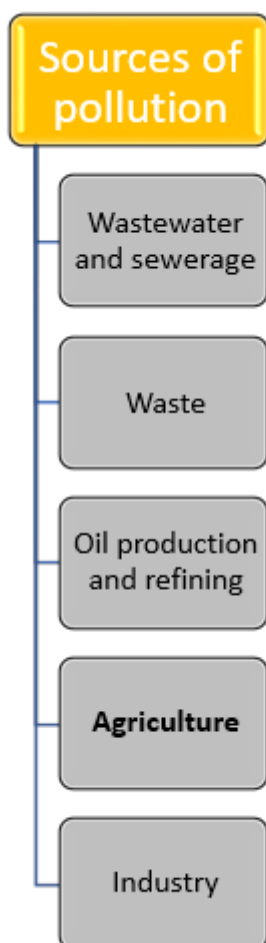
References/Further reading

<https://www.youtube.com/watch?v=EUVoykOp5pl>

<https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-pollution>

Annex

What sources of water pollution do you know?



Whitefish



Carp



Catfish



Maple



Redfin





Barbell



Bleed



Karakuda



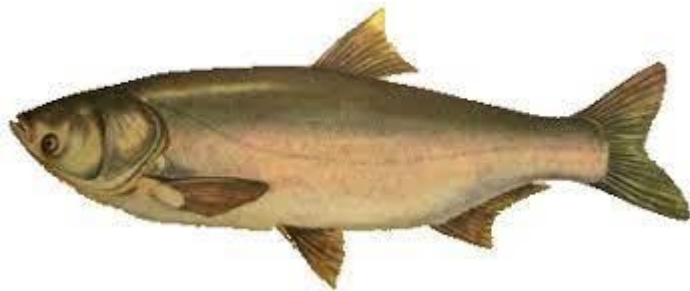
Cupid



Perch



Pike



Bream und Tolstolob.



Activity 2

Learning Tool Code	Title
SDG14-SDGfP	Life in the Seas and Oceans
Objectives	
<ul style="list-style-type: none"> • students to get an idea of the diversity of plants and animals of the seas and oceans, their distribution: in the shallow coastal part, in the thickness and at the bottom, in coral reefs; • to reveal the connection and adaptability of the inhabitants of the seas and oceans to life in different conditions. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - tables, computers, electronic material „Life in the seas and oceans“, collections of marine life, interactive board ❖ Duration – 90 minutes ❖ Number of groups - several groups of students <ul style="list-style-type: none"> - (5 grade, ages 11-12) 	
Instructions	
<p>The course of the lesson</p> <p>1. Organizational moment</p> <p>- Hello, sit down. / 1 minute /</p> <p>2. Updating basic knowledge, skills and abilities</p> <p>In the last lesson we got acquainted with different natural areas of the Earth and their inhabitants. Let's test your knowledge. Four students on the computer perform an interactive task. The others answer orally. Attention to the screen.</p> <p>Task: name the animal and its natural environment (presentation "Test of knowledge") - individual study - for a correct answer, hand over the shell.</p> <p>/ 5 minutes /</p> <p>3. Assimilation of new material</p> <p>- Students, why do you think I gave you unusual and different objects? (students' answer)</p> <p>Presentation 1. Presentation 2. Presentation 3. Presentation 4.</p> <p>- Yes, it's true. That's right.</p>	

/ 10 minutes /

The topic of our lesson is "Life in the Seas and Oceans" (slide 1).

/ 1 minute /

We go for a virtual walk to the sea. Let's think about why we do this walk, what do you want to know? Why should we study life in the seas and oceans? (I ask questions to several students)

/ 2 minutes /

- You're right. (slide 2) Your goals match mine.

Earthly life arises in water. Everything that now crawls, runs and grows on the ground, everything that flies above the ground and everything that digs underground - everything has ever come out of the sea. This means that we humans are also connected to the sea.

(slide 3)

/ 5 minutes /

Our body is still half water, our arms and legs are the former pectoral and pelvic fins of fish. Our lungs are formed by the swimming bladder of a fish. Our heart moves blood through our veins (WHAT TASTE) salty, like sea water, and our pulse beats are as rhythmic as the tides of the sea. (GLOBE)

The sea, or rather the world's oceans, cover 2/3 of the globe and contain 97% of all the Earth's water. For millions of amazing creatures, the sea is their home. The house is not simple, but multi-storey. (slide 4) Let us walk with you through the floors of this house and get to know its inhabitants, to solve their main life problems.

There must be certain living conditions. (light, food, oxygen, temperature) (slide 5),. (slide 6)

/ 7 minutes /

You know that plants are food for many animals, these same plants produce oxygen in the water. What plants are they? That's right, algae. (slide 7.8)

Animals living at different depths feed on algae (slide 9)

/ 5 minutes /

Our journey starts from the top floor, (Slide 10) here live organisms that form a community from the surface of the water. Here is a strange creature that floats, blue with red sail - a Portuguese warship in the old days, the Portuguese brightly painted their warships). He is a close relative of the jellyfish. The tentacles enter the water, with the help of which he catches his food: small crustaceans and fish.

/ 2 minutes /

Question No 1. How does a Portuguese ship stay afloat and not sink? (There is a large light air bubble and a large ridge at the top that serves as a canvas). Here, near the surface, it is bright and warm.

A relative of the Portuguese warship, the Sailboat, also sails on the surface of the ocean. It has a flat body like a raft, and a triangular sail rises on it. This is a predator that gets its food with the help of tentacles. And on the deck of this ship

you can see the sailors of the little Crabs. If they want to eat, they will go down to the bottom of a living ship and snatch from its tentacles the caught fish, crustaceans

The next floor is the community of the water column. (slide 11) This floor is full of light.

/ 5 minutes /

Question number 2. How does it stay in the water column and how to move in it? Plankton and free-floating organisms live here in the water column.

Plankton is a collection of living things (algae, crustaceans, ray beetles) that float freely in the water column, and for this they must have adaptations. (Outgrowths, bristles for water to keep them active.)

What adaptations do active swimming animals have for living in water? (click to open slide 11) / 2 minutes /

Slender simplified forms (herring, tuna, sharks, whales, dolphins).

They swim with fins. The tail fin pushes the fish forward. The dorsal fin, like the keel of a boat, does not allow it to tip over. Lateral rudders on turns, ascents and descents.

/ 2 minutes /

Which fish have hair, ominous fins sticking out of the water? (slide 12)

The ferocious predators of the sea are sharks and they swim fast. They are different: among them there are giants (20 meters) and dwarfs up to 15 cm. The biggest harmless are tiger and giant shark. They feed on plankton and small fish. Our sharks look sighted, but they are blind. For them, the main thing is not sight, but smell. A shark smells better than a greyhound.

The great white shark up to 6 meters is a cannibal. She hunts squid at night (slide 13) and his little relatives. The shark's jaws have many teeth, if they fall out, the new ones will grow in 8 days. The shark's dark, round, mesmerizing eyes instantly recognize their prey. The shark is constantly hungry, it is always on the move, if the shark stops moving, it will drown (without a swimming bladder). The water column is home to sea turtles, whales, dolphins and many other animals. (slide 14)

/ 5 minutes /

What devices do the inhabitants of the water column have? For example, whale and squid. Both the giant whale and the crumbs of plankton algae - all sea swimmers have fat, this is a good help because fat is lighter than water. There are other adaptations, for example in squid, octopus, cuttlefish.

The squid contracts its muscles and releases a jet of water and is thrown back by the push. He swims in the opposite direction. It turns out that he has some jet engines underwater. / 3 minutes /

The next floor is the community of the inhabitants of the bottom. (slide 15)

The benthic community is very rich in species. Here, on the lower floors, live numerous mollusks with beautiful shells, starfish, hedgehogs, rays, shrimp, octopuses, fishermen, flounder.

Question number 3. How to move to the bottom and defend yourself from enemies? (click to open slide 15) / 3 minutes /

(Slide 16) At the bottom is a pile of sand, below it a waving flag. A fish swam up to the twig, touched it with its lips, the sand flew away for a moment, a huge mouth opened as if in sand and a fish fell into it. This is a fisherman's hunt.

How do stingrays, flounder, fishermen adapt to live at the bottom? (Flattened body shape, coloring according to the color of the bottom, ability to mask)

After a chessboard was lowered to the bottom of the aquarium and a flounder was placed there, it disappeared after a while. It turned out to be drawn in light and dark squares, like a chessboard.

Echinoderms also live at the bottom (slide 17) / 7 minutes / Coral reef community. (slide 18)

Living things are even more diverse in the coral reef community. This community is as rich in form as tropical forests. They look like luxurious fairy gardens inhabited by strange inhabitants. Coral reefs are located in shallow waters, there is a lot of heat, light, food. The coral reef is a friendly place for many fish.

Community of deep - sea organisms. (slide 19)

What problems does the community of deep-sea organisms solve? There are no plants here, but strange organisms live.

/ 7 minutes /

Question N° 4. How to navigate in the dark How do deep-sea fish lure their prey and flee from enemies? (open slide)

- I'm announcing a gym minute. (Get up, stretch, look back and sideways) Sit down.

/ 1 minute /

4. Independent work of students. (consolidation of what has been learned)

- We work in groups. 4 groups. Group tasks:

1. Practical work "Study of a collection of marine life"
2. View a video.
3. Fill in the table. (SHARE SHELLS)

Which group is the first to complete all the practical work is the first to fill in the row in the table on the interactive whiteboard. After filling in, go to the computer and perform the test - Fill in the table on the interactive whiteboard (slide 21) Group 1 and 2- on the blackboard, groups 3 and 4 - computer tests (change)

/ 10 minutes /

5. Diagnosis of the knowledge acquired in the lesson.

"So what did we learn today?" Have we achieved the objectives of the lesson? What questions do you have that are not clear?

6. At home. exercise. (slide)

7. REFLECTION (In what mood do you leave the lesson)

The most important problem of the oceans and seas is an environmental problem, and it is no longer the residents of "our multi-storey building" who have to solve it, but we, the people.

Beautiful colorful fish, huge whales, strange octopuses, funny dolphins - amazing creatures that we talked about in our lesson - should not be allowed to disappear.

8. Evaluation. Thanks for participating in the lesson. Task card.

Practical work "Study of the collection of marine life"

- browse the collection
- enter the names of the animals in the table. Watch the video on your computer.
- enter the name of the animal in the table
- to determine the features of adaptation to life in a certain community.

Communities of the seas and oceans			
Name of the community	Representatives of the Community	Basic issue	Ways to solve problem
Water surface		How to stay on water surface	
Water column		How to move in the water column	
Bottom		How to protect yourself from enemies and move at the bottom	
Deep sea		How to navigate in complete darkness	

Tips for the facilitator

The most important problem of the oceans and seas is an environmental problem, and it is no longer the residents of "our multi-storey building" who have to solve it, but we, the people.

Beautiful colorful fish, huge whales, strange octopuses, funny dolphins - amazing creatures that we talked about in our lesson - should not be allowed to disappear.

Debriefing

Task card.

Practical work "Study of the collection of marine life"

- browse the collection
- enter the names of the animals in the table. Watch the video on your computer.
- enter the name of the animal in the table
- to determine the features of adaptation to life in a certain community.

Communities of the seas and oceans			
Name of the community	Representatives of the Community	Basic issue	Ways to solve the problem
Water surface		How to stay on water surface	
Water column		How to move in the water column	
Bottom		How to protect yourself from enemies and move at the bottom	
Deep sea		How to navigate in complete darkness	

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

https://coral.org/en/blog/how-much-do-you-know-about-ocean-wildlife-take-our-quiz-and-find-out-2/?gclid=EAlaIQobChMIsMrUlcLkgwIVtRoGAB3B-wU8EAMYAiAAEgJ-2PD_BwE

Annex

Communities of the seas and oceans

Name of the community	Representatives of the Community	Basic issue	Ways to solve problem
Water surface		How to stay on water surface	
Water column		How to move in the water column	
Bottom		How to protect yourself from enemies and move at the bottom	
Deep sea		How to navigate in complete darkness	

LIFE IN THE SEAS AND OCEANS



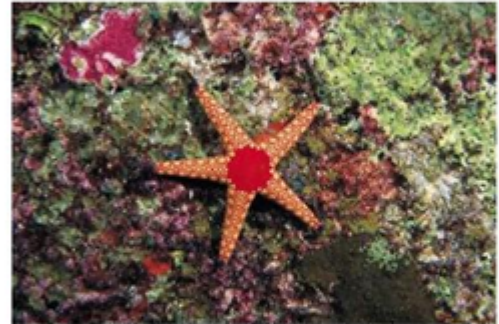
WHICH ANIMALS FORM THE SURFACE WATER COMMUNITY?

1. Squid and sharks.
2. Tropical fish and water meters



WHAT ANIMALS FORM THE THIN WATER COMMUNITY?

1. Squid and sharks.



2. Starfish and stingrays

WHAT ANIMALS FORM THE BOTTOM SOCIETY?

1. Starfish and stingrays

2. Fish and dolphins



WHY ARE THERE NO PLANTS AT GREAT DEPTH?

1. Very cold.
2. Very dark.

SAY!



WELL DONE!



Sustainable Development Goal 15

SDG 15: Preservation, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable forest management, combating desertification, halting and reversing land degradation and halting biodiversity loss

SDG 15

Sustainable Development Goal 15 (SDG 15 or Overall Goal 15) is for "Life on Land". One of the 17 Sustainable Development Goals set by the United Nations in 2015, the official wording is: "Protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainable forest management, combating desertification, and halting and reversing degradation and halting land biodiversity loss." The target has 12 sub-targets to be achieved by 2030. Progress towards targets is measured by 14 indicators.



The Targets

15.1 Ensure the protection, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in accordance with the obligations arising from international agreements.

15.2 Promote the implementation of sustainable management of all types of forests, stop deforestation and restore damaged forests, and significantly increase afforestation and reforestation worldwide.

15.3 Combating desertification, restoring degraded lands and soils, including those affected by desertification, drought and floods, and striving for a world free of land degradation.

15.4 Ensure the protection of mountain ecosystems, including their biodiversity, with a view to strengthening their capacity to deliver essential benefits for sustainable development.

15.5 Take urgent and substantial action to reduce the degradation of natural habitats, halt the loss of biodiversity, protect and prevent the extinction of endangered species.

15.6 Promoting fair and equitable sharing of the benefits arising out of the utilization of genetic resources and promoting appropriate access to such resources.

15.7 Take urgent action to eradicate poaching and illegal trafficking in protected animal and plant species and to address the demand for and supply of illegal wildlife products.

15.8 Measures to prevent the introduction and significant mitigation of the negative impacts of invasive non-native species in terrestrial and aquatic ecosystems, and to control or destroy those species.

15.9 Integrating biodiversity values and ecosystems into national and local planning, development processes, poverty reduction strategies and reporting.

15.a Mobilize and significantly increase funding from all sources dedicated to the conservation and sustainable use of biodiversity and ecosystems.

15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest

management and provide sufficient incentives for developing countries to develop sustainable management, including forest protection and reforestation.

15.c Strengthen global support for efforts to combat poaching and trafficking in protected species, including by increasing the capacity of local communities to find opportunities for sustainable livelihoods.

Why is it important?

For a long time we lived with the idea that nature is eternal, infinite, inexhaustible, generous and will always shower people with free gifts. Sometimes, however, both adults and children are reckless with it. Unfortunately, not everyone wants to protect planet Earth. Every year, 8,000 people die from environmental pollution. In one year, one inhabitant of the planet throws away a thousand kilograms of garbage. In this way it pollutes the air and groundwater. 80% of all diseases are transmitted through the use of polluted water - 25 million people die from it. It is estimated that 8 million people will die by 2040 from the smog that hangs over our planet. In hot countries, beautiful forests are disappearing. This is one of the wonders of nature. More than half of the animals, plants and fungi that exist on Earth live here. People are destroying timber forests to pave the way, to plow the fields. Every day, 5 million trees die under the saw. the need to protect nature, to protect our Earth. Take care of every tree, every bush! Do not pick flowers, do not break trees, do not destroy nests, do not throw waste.

Terrestrial ecosystem life is an initiative aimed at combating the destruction of the planet's surface and limiting the loss of biodiversity.

This objective aims to take measures to prevent and overcome habitat loss due to land degradation resulting from the link between the world's population and nature.

The implementation of this goal is planned for 2030.

Reasons for the destruction of life in terrestrial ecosystems

The loss of biodiversity causes drought, subsequent desertification and floods leading to a loss of arable land of about 12 million hectares each year. 60% of human energy intake comes from only 3 cereals (rice, corn and wheat). This requires large areas of arable land, which in turn requires deforestation and deforestation and the elimination of animal species in these areas. Poaching due to the trafficking of protected species of flora and fauna causes degradation of ecosystems. The destruction of mountain ecosystems has a significant detrimental effect, as they provide the largest share of fresh water on the planet.

Importance of preserving the life of terrestrial ecosystems

Ecosystems consist of many elements such as the air we breathe, the water and food we consume every day, and they largely come from the forests that make up 30% of the planet. In addition, about 80% of the world's freshwater comes from mountainous areas. Due to the above, the preservation of ecosystems is essential for life. About 80% of the world's human food comes from agriculture, making it an important development sector worldwide. In this sense, wildlife trafficking, in addition to degrading biodiversity, creates food insecurity and corruption. People living in situations of vulnerability due to lack of means of production are most affected, as approximately 74% of people living in poverty suffer directly from land degradation. And in this context, women living in poor rural areas are most affected. Only 15% of biodiversity is protected and there are 7,000 animal and plant species that have been trafficked illegally. This causes significant loss of global biodiversity and many species at risk. Which generates major imbalances in ecosystems and in human life. Many cultures are associated with traditional values, religious

beliefs and teachings. Whose imbalances in ecosystems have a detrimental effect on the population belonging to this culture. For example, about 80% of people living in rural areas in developing countries depend on natural extracts that they use as traditional medicines for their basic health and are found in plants.

Actions to protect the life of terrestrial ecosystems

- To protect the forests where mountain areas are located, due to their importance, in terms of the origin of freshwater and wetlands. For which it is necessary to stop illegal deforestation and to encourage reforestation, to restore degraded soils. All this in accordance with the commitments of international agreements.
- Stop poaching and trafficking in protected species through increased vigilance and law enforcement without corruption.
- Increase financial resources to stop land degradation and thus prevent the loss of biodiversity.
- Increase financial support for programs that promote opportunities and opportunities for sustainable livelihoods.
- Promote alternatives to foods other than cereals that are commonly consumed worldwide. As well as the spread of the importance of consuming locally produced food fairly and sustainably (fair trade).
- Support the use of sustainable energy with renewable resources that avoid increasing pollution and reducing resources.
- Encourage activities that respect biodiversity, such as ecotourism.

Links to other SDGs

SDG 15 is intertwined in the 2030 Agenda, and its objectives are directly linked to the objectives in other objectives. Among them are the goals of:

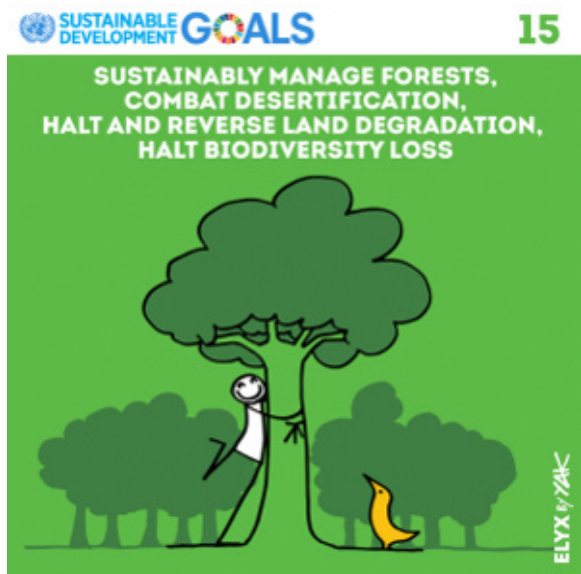
SDG 2; 2.2 (cessation of all forms of malnutrition), SDG 3; 3.9 (Significant reduction in deaths and diseases from hazardous chemicals and from pollution, contamination of air, water and soil), SDG 4; 4.2 (quality early childhood development), 4.7 (knowledge and skills for sustainable development), SDG 6; 6.1 (access to drinking water), 6.2 (access to sewerage), SDG 7; 7.1 (access to modern energy services), SDG 11; 11.6 (air quality and household waste), SDG 13; 13.1 (disaster resilience), SDG 12; 12.2 (Achieving sustainable management and efficient use of natural resources by 2030), 12.4 (Achieving environmentally sound management of chemicals and all waste throughout their life cycle in accordance with internationally accepted frameworks and significantly reducing emissions to air, water and soils in order to minimize their adverse effects on human health and the environment), 12.5 (Significant reduction by 2030 of waste generation through prevention, reduction, recovery and reuse).

SDG 15 is intertwined in the 2030 Agenda, and its objectives are directly linked to the objectives in other objectives. Among them are the goals of:

12.c Streamlining inefficient subsidies for fossil fuels that promote wasteful consumption by eliminating market distortions in line with national circumstances, including by restructuring taxation and phasing out environmentally harmful subsidies where they exist - in order to compensate



for their impact on the environment, taking full account of the specific needs and conditions in developing countries and minimizing any adverse effects on their development in a way that protects poor and affected communities. ZUR 14; 14.2 Achieve sustainable management and protection of marine and coastal ecosystems with a view to preventing significant adverse impacts, including by strengthening their resilience and taking action to restore them, with a view to turning them into healthy and productive seas and oceans. 14.7 Increase by 2030 the economic benefits for small island developing States and the least developed countries of the sustainable use of marine resources, including through the sustainable management of fisheries, aquaculture and tourism.





Developing the introduction

Overall Aim of Sustainable Development Goal 15

Protection, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable forest management, combating desertification and stopping and reversing land degradation and halting biodiversity loss

The extinction of species has always been a natural part of evolution. Fossils show that life on the planet originated more than four billion years ago, the date of birth of some bacteria and blue-green algae. Over the next three billion years, major groups in the body slowly formed. From now on, each appearance of a new group is invariably associated with the suppression and disappearance of another similar one. The average lifespan of a species (organism group) is five million years, so the whole spectrum of species has changed more than once. However, the process did not run at a constant pace. There are several periods of mass extinction that have "wiped out" about half of all extinct forms from the planet. And even periods of stability (lasting hundreds to thousands of years) are marked by species losses. It turns out that an average of 90 species naturally disappear every 100 years. The selective elimination of some species and the emergence and predominant development of others has led to the current mosaic of life, of which man is a part.

The process of natural loss of species continues today, but there is one more thing: in recent centuries, human activity has accelerated it more and more. There are data that about 400 birds and mammals have disappeared in the last 400 years and that the process is accelerating: from one extinct mammal every five years in the seventeenth century, to one every two years in the twentieth. It should be noted that birds and mammals make up less than 1% of all species identified by science, which in turn are an insignificant part of the total number of species on Earth. This trend is an indicative indicator, although it does not answer the question "What about biodiversity?" Today, the scientific community is unanimous: the species are disappearing much faster than even the most pessimistic forecasts, leading to habitat impoverishment and putting the world on the brink of a new period of mass extinction, but this time man-made.

Why is it important for educational community?

Forests are threatened by deforestation and degradation. Forest protection is an effective measure against global warming and the loss of valuable ecosystem services.

It is important for the development and education of students through environmental activities and lessons to save endangered plant and animal species.

One of the main approaches to the "protection" of biodiversity and endangered species is the conservation and restoration of habitats.

Conservation activities aimed at the protection of habitats achieve a multifaceted effect - it contributes to the protection of the "object of protection", as well as many other species and biodiversity as a whole.

At the same time, the improvement of the condition of the natural habitats has an irresistible ecological effect, the recreational and other functions of the habitats improve. It also has a positive effect on clean air and water, opportunities for tourism development and sustainable development. And last but not least - it improves the state of the environment and the quality of life in general.

In fact, all species protection projects also have an element of habitat protection.

Mobilizing the potential of young people for the protection of wildlife and the environment, protection of forests and their protection, afforestation.

Key dimensions of Sustainable Development 15

- Restoration of rare and endangered species and their habitats;
- Restoration and sustainable management of wetlands;
- Protection, restoration and sustainable forest management, prevention of corruption and poaching in the forest system;
- Expanding and strengthening the network of protected areas and supporting the construction of NATURA 2000 and the National Ecological Network;
- Support for the reforms in the Bulgarian nature protection legislation and its harmonization with the European one;
- Promoting the application of the principles of sustainable development and promotion of environmentally friendly economic activities;

The interplay between Sustainable Development Goal 15 and the acquisition of 21st century skills

- Supporting capacity building for biodiversity conservation and sustainable use of natural resources;
- Raising public awareness and commitment to nature conservation and sustainable development;
- Ex situ conservation - implementation of a program for rehabilitation, treatment and return to nature of injured wild animals in the only Wildlife Rescue Center in the country. Implementation of programs for reproduction and reintroduction of rare species.

Activity 1

Learning Tool Code	Title
SDG15-SDGfP	THE STORY OF A CHRISTMAS TREE
Objectives	
<p>Trees are guardians of the majesty of the Bulgarian forests. They are silent witnesses to historical events and preserve folk traditions. They are a breath of fresh air and a visual delight for the restless spirit of the city man. This is one of the reasons to protect the trees.</p> <p>Trees are the lungs of our planet. Unfortunately, the increase in agricultural land and industrialization are increasing the rate of deforestation.</p> <p>Decorating a tree for the New Year holiday is an ancient tradition. Is it possible, without violating the tradition of the holiday, to maintain the ecological balance of our planet.</p> <ol style="list-style-type: none"> 1. Analysis of the statistics for the felling of pine trees for the New Year holidays. 2. How to deal with the issue of tree felling? 3. Expand your horizons for replacing live trees with artificial ones and those grown in greenhouses. 4. To develop a system of measures for preserving the New Year's beauties. 5. Think of ways to dispose of Christmas trees. 6. Can we make artificial Christmas trees to protect nature? 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - mobile phones to fill in the Google survey, printed the fairy tale "THE STORY OF A CHRISTMAS TREE" ❖ Duration - 90 minutes ❖ Number of groups - several groups of students - (5 grade, ages 11-12) 	
Instructions	
<p>I. Relevance of the research</p> <p>Life is such that every year is followed by a new year. New Year is a fun holiday with a decorated Christmas tree. How many trees have been cut down for this holiday? Is this harmful to the environment?</p>	

II. Hypothesis

We assumed that decorating a tree for the New Year's holiday is an ancient tradition and we set out to find out whether it is possible to maintain the ecological balance of our planet without violating the tradition of the holiday.

Research goals:

1. Analysis of the statistics for the felling of pine trees for the New Year holidays.
2. How to deal with the issue of tree felling?
3. Expand your horizons for replacing live trees with artificial ones and those grown in greenhouses.
4. To develop a system of measures for preserving the New Year's beauties.
5. Think of ways to dispose of Christmas trees.

III. Object of research- Christmas tree

Research methods:

1. Study and analysis of scientific literature.
2. Working with information from Internet sources.
3. Questionnaire.
4. Self-reflection.

IV. Questionnaire

Before studying history, statistics, and problems, we decided to find out what my students knew about it.

For this purpose, a Google form was compiled and the survey was made.

V. Interest in the problem

As a result of the survey, it turned out that everyone decorates Christmas trees, mostly artificial, not many people decorate live Christmas trees. But it turned out that after the holiday almost all families just throw New Year's beauty in the trash. Only two students planted the tree again. On this occasion, I told them the following environmental story

:

THE STORY OF A CHRISTMAS TREE

What grows at the end of the forest is a sad story told to me by an old pine tree. Let's get started.

Once a Christmas tree appeared in our forest. It was small and defenseless. Everyone took care of it - the big trees protected her from the wind, the birds cleaned her of black, hairy caterpillars, the rain watered her, the wind cooled her through the heat. Everyone loved the Christmas tree, and it was good and kind. No one better than her could hide the little bunnies from the evil wolf or the cunning fox. All beasts and birds were treated with its aromatic resin.

Time passed and our Christmas tree grew and became very beautiful. All the birds, even from the neighboring forests, came to admire her. Until now, there has never been such a slender, beautiful and green Christmas tree in the forest. The Christmas tree knew about her beauty, but she was never proud of it, she remained kind and good.

As the New Year approached, everyone in the forest worked hard. After all, there are many forest beauties. A beautiful fate awaited the beautiful Christmas trees - to fall under the ax of a woodcutter. Once two magpies arrived and started whispering that people were going to the forest looking for the most beautiful Christmas tree. Our Christmas tree began to wave its green twigs to attract the attention of the woodcutters. Poor thing, she didn't know what they needed. She thought that they, like everyone else, wanted to admire her beauty. One of the woodcutters saw her.

"Stupid, stupid, she was waving branches and squeaking old pine - hide, hide!"

Never before had a woodcutter seen such a beautiful, slender, or kitschy Christmas tree.

"Beauty, just what I need," said the woodcutter ...

He rolled up his sleeves and began to cut her thin trunk with the ax. The Christmas tree cried out in pain, but it was too late and she fell into the snow. Astonishment, pain and fear were her last feelings. When the woodcutter dragged the Christmas tree, its delicate green twigs broke and left traces in the snow. A scary, ugly stump, that was all that was left of the beautiful Christmas tree in the forest.

This is the story the old pine tree told me.

All the students liked the ecological story "The Story of a Christmas Tree". and it touched their souls.

VI. History of the publication. Where does the custom come from

I was very interested in why the tree was chosen among all the trees. I studied materials on this topic and met my students.

We are all looking forward to that moment of the year when small evergreen Christmas trees appear in our houses. The shiny toys, the twinkling lights and the gifts left under the branches of the Christmas trees bring coziness and joy to the home and seem to remind us that all adversity can be left behind if we are peaceful and positive.

However, we rarely think about where the Christmas tree originates and who was the first to decorate it. To satisfy not only yours but also our own curiosity, we did a quick study of the history of the Christmas tree. Here's what we found:

There are many legends telling strange stories about the Christmas tree, but the historical evidence for the decoration of Christmas trees is only from the last few centuries. Some of the customs associated with evergreen trees are pagan, while others bear the imprint of Christianity, making the Christmas tree one of the brightest symbols of the Nativity.

From ancient times, people brought evergreens into their homes because they believed that they had magical and healing properties. The Greeks and Romans used ivy twigs, while the Celts and Scandinavians preferred mistletoe. Jelly, prickly broom (butcher's broom), laurel and pine twigs were also not neglected in ancient times, because they were believed to drive away diseases. These beliefs were especially prevalent among the inhabitants of the northern regions, because the evergreen plants revived the thoughts of spring and the revival of new life during the long cold nights.

Legend has it that at the time of Jesus' birth, each tree bore fruit to honor the appearance of the new king. Only the little Christmas tree did not bear fruit, but God had mercy on her and made her shine in the light. Hence the tradition of decorating Christmas trees with lights - initially with candles, and today - with flashing lights in all colors.

Saint Boniface and the oak of Odin

One of the first stories about the Christmas tree is related to St. Boniface and is widespread in Germany. Boniface was a priest in the 8th century and spread the true faith in the province of Germany. Returning from a visit to the pope in Rome, the priest was horrified to find that the locals, who had been converted to Christianity, had returned to

their pagan customs and were willing to sacrifice a young man by killing him under Odin's oak.

Angry, Boniface took an ax and went to cut the oak. Historical sources stop there, but the legend continues: when the priest struck the oak with his ax, he was knocked down instantly. The Germans were defeated and acknowledged God's intervention, and Boniface pointed to a small Christmas tree that remained intact when the huge tree fell. He suggested that the locals take one such Christmas tree home, because it symbolizes peace and immortality, and its upward peak shows where the house of the Lord is.

Wooden trees

It is believed that 1000 years ago in many parts of Northern Europe, fir trees were hung with chains to hang from the ceiling like candlesticks. Another tradition was to bring cherry or hawthorn twigs into the house in the hope that they would bloom at Christmas. However, if the owners could not afford real wood, they formed a wooden pyramid from twigs and twigs, which they then decorated with paper, apples and candles. Often these wooden trees went from house to house, bringing joy to the whole village.

Probably the wooden trees symbolized the trees of paradise. They are common in the medieval mysteries presented in Germany in front of churches before Christmas. In the early church calendars, December 24 was celebrated as the day of Adam and Eve. The tree of paradise symbolized the Garden of Eden and was often carried through the streets of the village before the theatrical performance to provoke the residents to come to the church and hear the biblical passages presented to them by actors.

The first Christmas tree

The first written evidence of the use of Christmas trees as a symbol of the Christmas and New Year holidays can be found not anywhere but in the square in Riga, Latvia. There is a plaque engraved in eight languages with the inscription "The first Christmas tree in Riga in 1510".

Little is known about what happened in the capital of the Baltic state in 1510: young men in black hats, accompanied by groups of girls, came to the square and first danced and then lit the decorated Christmas tree. Probably the tree was not real, but like the wooden

trees. The custom is very reminiscent of the holiday of Yul, dedicated to the birth of the sun god.

The Christmas tree in the 16th century

If we look at Germany in 1521, we will see a tree carried through the streets of the cities, and behind it rides a man on horseback, dressed as a priest, probably representing St. Nikolaus. In 1570, a small tree decorated with apples, nuts, bretzels and paper flowers was documented in Bremen.

The first person to bring a Christmas tree into his home, as we do today, was the German preacher Martin Luther. According to the story, the day before Christmas, as Martin Luther walked through the woods, he looked up at the sky to see the stars through the branches of the trees. He found it so beautiful that he returned home and decorated a small tree with candles, showing the children how it reminded him of Christ who left the stars of heaven to come down to earth with people on Christmas Eve.

Christmas decorations in the 16th and 17th centuries

In the middle of the 16th century, Christmas markets became very modern. Through them, people were provided not only with gifts, but also with delicious food and other practical paraphernalia necessary for the holiday (for example, knives and rolling pins). The bakers surpassed themselves, preparing delicious gingerbread and wax figures to decorate the Christmas trees. A written source from 1601 tells of a tree in Strasbourg decorated with waffles, golden sugar sticks and paper flowers.

Garlands appeared around 1610 in Germany. At that time, real silver was used, and even machines were invented to pull the silver threads for the garlands. Silver is as durable as metal, but it turns black quite quickly. Attempts were later made to replace the silver garlands with those of a mixture of lead and tin, but the attempt was unsuccessful due to the heavy alloy. Thus, the garlands remained silver until the middle of the 20th century.

The Christmas tree in our lands

The tradition of decorating Christmas trees in Bulgaria is relatively new, unlike other parts of Europe. However, we are famous for our custom, namely decorating the Christmas tree.

From it comes the name of Christmas Eve. Unlike the Christmas tree, the Christmas tree is made of deciduous wood, a symbol of renewal and the revival of new life.

The Christmas tree is a stump of beech, oak or pear tree. It is selected by the owner of the house and a hole is drilled in it, in which olive oil and incense are placed. Then the tree is wrapped in a white cloth, placed by the hearth to wait for the festive evening. The oldest person in the home smokes the rooms, barns and stables for health and fertility with the Christmas tree, and then puts it in the hearth and someone has to wake up all night until the magic stump burns completely. In the morning, his ashes are scattered on the ground to give birth to spring.

In the 20th century, the Christmas tree was brought to the Christmas ritual in Bulgaria as a symbol of the coming of Christ to earth to illuminate the people and their kingdom. The decoration of the Christmas tree with figurines, balls and candles symbolizes the essence of Christ - light, knowledge, purity and truth.

In Bulgaria, the custom of decorating a Christmas tree comes from Russia. The Russians arranged Christmas trees in the larger cities of Bulgaria during the Russo-Turkish War of Liberation. In this way, the Christmas tree became popular in our country, as it is not only a Christmas tree, but also a Christmas tree.

In our country, too, the celebration of Christmas is not tolerated during socialism, as the main holiday is the celebration of the New Year. Subsequently, the tradition is restored today, Christmas and Christmas are established as purely family holidays, at home, accompanied by the long - awaited exchange of gifts by children. And many people celebrate the New Year outside. It is a great occasion to gather with friends.

VII. Deforestation statistics

A month before the New Year, Christmas tree markets appear, where you can see mountains of Christmas trees. For example, 60,000 to 62,000 trees are felled for sale in Moscow alone each year, and imagine how many trees are felled in America. Globally, more than 7 billion people live on our planet, even if every seventh person wants to buy a Christmas tree, then 1 billion trees will have to be cut down. And then all these trees go to the dump.

Digging deeper into the topic, we identified two problems:

1. This is deforestation. But forests are the lungs of our planet. Especially conifers are very valuable because they produce special phytoncides that kill pathogenic microbes. Sanatoriums are often built next to coniferous forests. And lately, people have begun to understand and appreciate this. As it turned out in the modern world, a ban on felling trees in forests has been introduced; they are planted in special nurseries.
2. But the second problem turned out to be even more serious than the first - the disposal of Christmas trees.

VIII. Options for New Year's beauties for the New Year

Live felled tree.

When buying New Year's beauty, we must make sure that it is grown in a special nursery. Special nurseries are engaged in growing Christmas trees. In these nurseries, Christmas trees are planted in large quantities every year. As a result, these areas function as forest areas, performing all the ecosystem functions inherent in young forests: they are home to many species of animals, birds and insects. In addition, actively growing young Christmas trees absorb large amounts of carbon dioxide from the atmosphere and actively release oxygen. Most often the plantations are located where the normal forest cannot grow. On New Year's Eve, trees from 8 to 15 years old are cut down. In the future, young trees will be replanted and the nursery will remain "green".

Live tree in a pot.

Decorative conifers in pots, tubs or boxes. It is true that it is extremely difficult to keep such a tree after the New Year holidays (and the bigger the tree, the harder it is to keep it), it is a whole art, without special knowledge and skills it is not easy to keep alive trees. That is why it is best to use as a Christmas tree those species that can grow indoors all year round: cypress, araucaria and other southern trees grown in our climate as houseplants.

Christmas tree in your yard.

If you have a summer villa, then the easiest and best way is to decorate a Christmas tree in the yard and celebrate the New Year in nature. You can decorate a Christmas tree that grows near the house.

Christmas trees with their own hands.

In the classroom and at home we make Christmas trees with our own hands. It's exciting, interesting and fun.

My Christmas tree is at home.

Christmas trees can be made of different materials, saving ours living beauties.

IX. The main problem is the disposal of Christmas trees after the New Year

1. Disposal of felled trees.

There are countries that set up points from January to March to dispose of Christmas trees. Citizens can donate for free the withering trees that were the decoration of their holiday.

All trees are sent for processing, and they will become the basis for new plant soil. If they are thrown in an ordinary container, they end up in a landfill and are useless.

2. Planting trees in pots.

Potted trees are stored until they are planted in the spring.

3. Christmas tree in the zoo.

Conifers are collected mainly for elephants, monkeys and ungulates. The latter often gnash their teeth at them. As for taste preferences, horned goats eat pines, musk oxen prefer Christmas trees. Also, Christmas trees in pots are used to enrich the zoo's environment.

4. Collecting cones and planting seeds.

Specialists grow new trees from the seeds of cones. After the Christmas toys are removed, a few hundred cones are carefully collected from the tree. Then the best seeds are selected from them and sent to nurseries for growing conifers.

X. Conclusion

With our research, we confirmed our hypothesis that it is possible to maintain the ecological balance of our planet without disturbing the tradition, after receiving the joy of the holiday.

Now the Christmas tree is a good friend of mine that I meet every year. This communication brings me joy. Let everyone be friends with nature.

The choice is yours.

Tips for the facilitator

- 1) The teacher asks the students a question - in the future can we protect the conifers without breaking the tradition?
- 2) The teacher encourages a discussion of which option students prefer to decorate a Christmas tree?

Debriefing

Students to make an artificial Christmas tree with waste materials

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://bg.decor-modern.com/7490634-make-an-artificial-and-original-christmas-tree-from-christmas-balls>

Annex

Christmas tree survey <https://forms.gle/Cee1daJz4s9GXqe>

Activity 2

Learning Tool Code	Title
SDG15-SDGfP	I learn about animals to protect them
Objectives	
<ul style="list-style-type: none"> ○ Biodiversity conservation; ○ Habitat restoration; ○ Sustainable management of natural resources; ○ Improving environmental policy and legislation; ○ Environmental education. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - Each group has mobile phones, a set of pre-prepared materials on the topic, pens and sheets. ❖ Duration – 90 minutes ❖ Number of groups - several groups of students - (5 grade, ages 11-12) 	
Instructions	
<p>Initially, the students got acquainted with the activities of the Rescue Center "Green Balkans". This is a unique organization and the only one for Bulgaria. The center shelters endangered wildlife from all over the country. Here they are treated and after their full recovery they return to the wild. The work in the center is related to treatment, rehabilitation, reproduction and return to nature of rare and endangered wild animals.</p> <p>The students then enter the Rescue Center and get to know each animal. A representative of SC "Green Balkans" tells the personal story of each animal.</p> <p>Unfortunately, some of the patients have serious disabilities, and despite the care provided by the team, they cannot fully recover. Such animals remain residents of the Center forever.</p> <p>They are provided with daily care, for which additional funds are needed. At the end of the informational talk, the students decide which animal to adopt. This cultivates empathy in them, giving is a way in which students contribute to a socially useful cause. Here students also enrich their environmental education.</p> <p>The teacher of Man and Nature tells them that today's lesson is dedicated to October 4 - World Animal Day. The day thousands of conservationists around the world and animal</p>	

welfare organizations celebrate it. It began back in 1931 by participants in an international congress of environmentalists held in Florence.

The students in the class are divided into 4 teams. The formation of teams is random through a game that leads to their division.

Game: The children line up in a circle. The teacher is in the middle of the circle and indicates from which child to start the separation. The first child says - 1, the next - 2, the next - 3, the next: "I am a bird". If a child makes a mistake, the counting starts again and the teacher indicates from which child to start the division. Thus, 4 working teams are formed at random.

Each group receives a work card:

Each working group has 15 minutes to work on the map. At the end of the 15th minute, each team sends a representative who presents the conditions of the tasks and their solution. He also reads the interesting facts that are written in the map.

At the end of the lesson, the students are shown the Testimony of the adopted animal and a summary is made that the unreasonable way of life of people leads to the loss of animal species and we must take care of them so that they exist for future generations.

More and more plant and animal species around the world are disappearing as a result of human activity.

Main causes of biodiversity loss

- Changes in land use (deforestation, intensive monoculture agriculture, urbanization)
- Direct exploitation of human species such as hunting and overfishing
- Climate change
- Pollution
- Introduction of species external to the ecosystem

Up to 1 million animal and plant species are threatened with extinction as a result of human activity, according to a UN report on biodiversity presented at a meeting of the Intergovernmental Scientific and Policy Platform on Biodiversity and Ecosystem Services (IPBES) in Paris.

You have seen that in addition to humans and animals, they need doctors and specialists to take care of them. We came here to this Rescue Center to help with our donation of endangered species so that there will be them for generations to come. And in the lesson you were convinced that each animal species has its contribution to the balance in nature. This is the reason we protect them and take care of them.

Tips for the facilitator

- 1) The teacher asks the students a question - in the future how to protect the animals from extinction
- 2) The teacher encourages a discussion of how human activity destroys animal species.

Debriefing

Students to create an information presentation to be released at the school of other students.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://greenbalkans-wrbc.org/bg/>

Annex

Worksheet 1

WORK SHEET- 1

Problem 1: The crested pigeon weighs 200 g and is 450 g heavier than the gray heron, which is 100 g heavier than the great egret. How much does the heron weigh?

Identify the birds from the pictures. In case of difficulty, use the Internet and write them down under the pictures.



Solution to the problem:

Task 2: The white stork weighs 2400 g, the raven - 1100 g less, and the mute swan - 2100 g more than the raven. How much does a mute swan weigh?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures



Solution to the problem:

Interesting facts:

Crowned Pigeon: The pigeon's eyes are located on the side of its head, unlike humans and many other animals. Pigeons see still objects much better, but when something or someone is moving, they need help to focus. With each step they take, they move their head. This helps them to better perceive and orient

Did you know that the stork lives an average of 20 years. Storks have almost no enemies, except for large eagles and crocodiles. The stork is a noble bird.

The image of the stork is a symbol of the country of Belarus.

Homework assignments:

Task 1: The Indian crane flies at an altitude of 5000 m, the sea rain whistle - 10 times lower, and the bee-eater - 3 times higher than the rain whistle. At what height does the bee-eater fly?

Task 2: The highest place where the Caucasian black grouse lives is 2440 m, the parrot is 2 times higher, and the Kerkenes is 310 m lower than the parrot. At what height does the Kerkenes live?

Task 3: Find interesting facts about one of the birds in the homework assignments and write them down.

Worksheet 2

Task 2: The owl weighs 3200 g, the droplet - 3 times more, and the wandering albatross - 2 kg and 100 g less than the droplet. How much does a wandering albatross weigh?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures.



Solution to the problem:

Interesting facts:

Did you know that: According to one of the findings, the ancestors of today's miniature kiwi bird in the past could fly. This happened about 60 million years ago - after dinosaurs died and before mammals became leaders on the planet.

Did you know that: The owl is a symbol of wisdom and longevity. Usually, people give owl statuettes as a gift to wish their recipients wisdom and longevity.

Homework assignments:

Task 1: The Indian crane flies at an altitude of 5000 m, the sea rain whistle

- 10 times lower, and the bee-eater - 3 times higher than the rain whistle. At what height does the bee-eater fly?

Task 2: The highest place where the Caucasian black grouse lives is 2440 m, the parrot is 2 times higher, and the Kerkenes is 310 m lower than the parrot. At what height does the Kerkenes live?

Task 3: Find interesting facts about one of the birds in the homework assignments and write them down

Worksheet 3

WORKSHEET- 3

Task 1: The California condor weighs 16,000 g, the fish-eating owl 4 times less, and the pink pelican 3 times more than the fish-eating owl. How many kilograms does a pink pelican weigh?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures.



Solution to the problem:

Task 2: The great cormorant flies at an altitude of 300 m, the gray crane - 7 times higher, and the field lark - 200 m lower than the gray crane. At what height does the lark fly?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures.



Solution to the problem:

Interesting facts:

Did you know that: The California condor is a very rare bird that was on the verge of extinction in the 20th century. Condors are very important in environmental terms. By feeding on carrion, they purify nature and prevent the spread of various diseases.

The California condor is depicted on the US 25-cent coin.

Did you know that: Because the cormorant is a perfect fisherman, in the past these birds were used in human fishing. The cormorant is tied with a string around its throat, which is well tightened so that it cannot swallow large fish, and is lowered into the water. The bird catches the fish and the fishermen pull it out, forcing the cormorant to open its mouth.

Homework assignments:

Task 1: The Indian crane flies at an altitude of 5000 m, the sea rain whistle

- 10 times lower, and the bee-eater - 3 times higher than the rain whistle. At what height does the bee-eater fly?

Task 2: The highest place where the Caucasian black grouse lives is 2440 m, the parrot is 2 times higher, and the Kerkenes is 310 m lower than the parrot. At what height does the Kerkenes live?

Task 3: Find interesting facts about one of the birds in the homework assignments and write them down.

WORKSHEET- BIRD

Task 1: The highest place where the owl lives is 4630 m, the white vulture - 710 m higher, and the bearded vulture - 1970 m higher than the white vulture. At what height does the bearded vulture live?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures.



Solution of the problem:

Task 2: The nunbird flies at an altitude of 2400 m, the village swallow - 30 times lower, and the white stork - 1220 m higher than the swallow. At what height does the white stork fly?

Guess the birds from the pictures. In case of difficulty, use the Internet and save them under the pictures.



Solution to the problem:

Interesting facts:

Did you know that: The bearded vulture is considered the symbol of Bulgarian nature protection - its silhouette is placed on every protected area and tree in the country.

All vultures are united under the nickname "wildlife sanitizers" because they feed on dead animals, and the bearded vulture - and bones. Thus, these birds protect animals and humans from the spread of diseases and infections.

Did you know that: The barn swallow feeds on insects: beetles, flies, locusts, crickets, dragonflies. Before it rains, the air is filled with moisture, which makes the wings of the insects heavy and then they descend low to the ground. When swallows fly low, it is a prediction of recent rain.

Homework assignments:

Task 1: The Indian crane flies at an altitude of 5000 m, the sea rain whistle

- 10 times lower, and the bee-eater - 3 times higher than the rain whistle. At what height does the bee-eater fly?

Task 2: The highest place where the Caucasian black grouse lives is 2440 m, the parrot is 2 times higher, and the Kerkenes is 310 m lower than the parrot. At what height does the Kerkenes live?

Task 3: Find interesting facts about one of the birds in the homework assignments and write them down.

Sustainable Development Goal 16

Peace, Justice and Strong Institutions

SDG 16

Sustainable Development Goal 16 (SDG 16) is about "peace, justice and strong institutions". It is one of the 17 Sustainable Development Goals established by the United Nations in 2015, the official wording is: "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels".



The Targets

The Goal has 12 targets to be achieved by 2030. Progress towards targets will be measured by 23 indicators. Target 16.1: Reduce violence everywhere

Target 16.2: Protect children from abuse, exploitation, trafficking and violence

Target 16.3: Promote the rule of law and ensure equal access to justice

Target 16.4: Combat organized crime and illicit financial and arms flows

Target 16.5: Substantially reduce corruption and bribery

Target 16.6: Develop effective, accountable and transparent institutions

Target 16.7: Ensure responsive, inclusive and representative decision-making

Target 16.8: Strengthen the participation in global governance

Target 16.9: Provide universal legal identity

Target 16.10: Ensure public access to information and protect fundamental freedoms

Target 16.a: Strengthen national institutions to prevent violence and combat crime and terrorism

Target 16.b: Promote and enforce non-discriminatory laws and policies

Target 3.d: Improve early warning systems for global health risks

Why is it important?

The first step to fulfilling any aspect of the global sustainable development agenda for 2030 will begin with restoring security and human rights to individuals whose very lives and basic freedoms are under threat either due to direct violence or through institutional restrictions to justice. Many of the countries that did not achieve their Millennium Development Goal targets by 2015 were countries experiencing armed conflict and instability.

Reducing violent crime, sex trafficking, forced labor, and child abuse are clear global goals. The International Community values peace and justice; they call for stronger judicial systems that will enforce laws and work toward a more peaceful and just society.

SDG 16 addresses the need for major intervention to promote peace and inclusive institutions and contribute to the other Sustainable Development Goals. Areas of improvement include: reducing lethal violence, reducing civilian deaths in conflicts, and eliminating human trafficking.

Poverty, economic inequality, and high youth unemployment are some of the major reasons

behind the high homicide rates. It was found that, homicides are four times more likely to occur in regions with high economic disparity than those that have economic equity, which helps to explain the high homicide rates in some regions. Although homicide rates have been seeing a reduction the past several years, the progress on SDG 16 has been reversing. If current global trends continue, it is estimated that all forms of violence will increase by 10-46 percent by 2030.

The Challenge

Violence is perhaps the most significant and destructive challenge to the development, growth, wellbeing, and the very survival of countries around the world. Fatalities resulting from armed conflict are rising in some parts of the world, causing mass displacement within countries and across borders, and resulting in massive humanitarian crises that adversely impact every aspect of our developmental efforts. Other forms of violence – crime and sexual and gender based violence – also remain a global challenge.

Young people are especially vulnerable; 43% of all homicides globally involve young people between 10 and 29 years of age, and children make up a third of human trafficking victims worldwide. But violence can also take more insidious forms. The institutional violence of unaccountable legal and judicial systems, and depriving people of their human rights and fundamental freedoms all constitute forms of violence and injustice. Corruption, bribery, theft and tax evasion cost developing countries around USD1.26 trillion per year; money that could be used to lift many above the international poverty threshold of USD 1.90 a day for at least six years.

How can we address this?

Goal 16 is dedicated to the promotion of peaceful and inclusive societies for sustainable development, the provision of access to justice for all, and building accountable institutions at all levels.

National and global institutions have to be more transparent and effective, including local governance and judicial systems which are critical to the guarantee of human rights, law and order, and security.

Links to other SDGs

The Sustainable Development Goals are not taken as being completely independent one from the other, but rather as being closely linked. In this way, media development enhances freedom of speech, peace, but also contributes to sustainability, poverty eradication and human rights.

Fostering peace and inclusive societies can help reduce inequalities (SDG10) and help economies prosper (SDG8).

The 2012 outcome document of the United Nations Summit on the 2030 Agenda considers that sustainable development can not be achieved without building peaceful, just and inclusive societies and addressing issues of corruption, poor governance, insecurity and injustice.



16 Peace, justice and strong institutions

2015-2019 Output, Impact, Collaboration

Research supporting SDG16 has grown since 2015, with a compound annual growth rate of 2.7%, compared to nearly 3.5% for research in all fields.

The US produces the most research supporting SDG16, followed by China, the United Kingdom, Germany and Australia. Eight of the 10 most prolific locations are high income locations (accounting for more than 111,300 publications); one is an upper-middle income location (China) and one is a lower-middle income location (India). Six low income locations feature in the top 50: Uganda (284 publications), Ethiopia (194 publications), Tanzania (163 publications), Nepal (129 publications), Rwanda (103 publications) and Malawi (58 publications).

The top five locations for which research on SDG16 represents the largest share of their research portfolio are Rwanda, Uganda, Palestine, Zimbabwe and South Africa.

International collaboration yielded 14% of research on SDG16. High income locations collaborated with low income locations on 37% of their total SDG16 research, while nearly 73% of the related output from low income locations came from collaboration with high income locations.

As a measure of academic impact measured by citation, the field weighted citation impact (FWCI) for SDG16 research was above average every year, with an average of 1.04 over the period.

RELX
SDG Resource Centre

ELSEVIER

This analysis builds on Elsevier's Sustainability Science in a Global Landscape report, which was released in 2018 to coincide with the launch of the SDGs. See a 2017 update on key findings on the RELX SDG Resource Centre. Help us to provide insight into SDG research. [Click here to restore the research.](#)

See the methodology and definitions.

RELX and the Elsevier logo are trademarks of RELX Group plc (and/or its subsidiaries). Elsevier is a registered trademark of Elsevier B.V. © 2020 RELX Sources: Scopus®

169,330
Publications in period

2.7%
Compound Annual Growth Rate in the period

78.3%
Publications from high-income locations

0.9%
Academic corporate collaboration

0.4%
Publications from low-income locations

1.04
Field-Weighted Citation Impact

13.5%
Publications with international collaboration

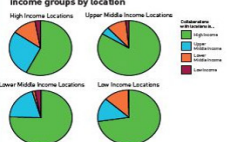
WMI in FWCI
Field-weighted citation impact is an indicator of scholarly impact based on the number of times the publication was cited in other research. An FWCI of above 1.0 indicates the impact is above the normalized average.



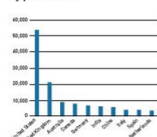
Key themes in SDG16 Research



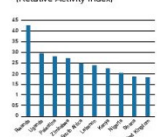
International collaboration between income groups by location



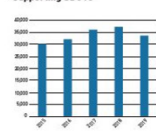
Top 10 locations by publication



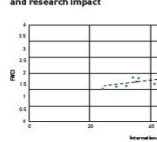
Top 10 locations by RAI
*Relative Activity Index



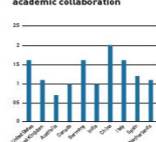
Volume of publications supporting SDG16



International collaboration and research impact



Top 10 locations for corporate-academic collaboration



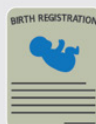
*Relative Activity Index is a measure of the proportion of the country's research output in the subject, relative to the proportion seen globally.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

GOAL 16



PEACE, JUSTICE & STRONG INSTITUTIONS

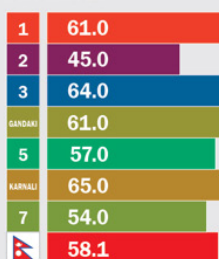


Proportion of children under 5 years of age whose births have been registered with a civil authority (%)

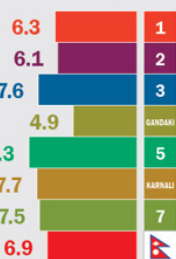
Proportion of young women & men aged 18-29 years who experienced sexual violence by age 18 (%)^a



PROVINCES

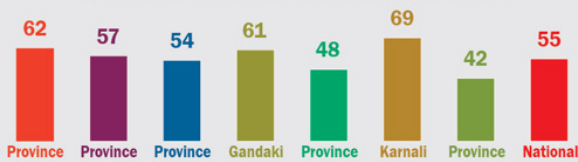


PROVINCES



People's perception on corruption (%)

People who believe that government can control corruption if it wants



PROVINCES AND NATIONAL

Indicators	1	2	3	Gandaki	5	Karnali	7	Target 2030
Proportion of children under 5 years of age whose births have been registered with a civil authority (%) ¹	61.0	45.0	64.0	61.0	57.0	65.0	54.0	100
Proportion of young women & men aged 18-29 years who experienced sexual violence by age 18 (%) ²	6.3	6.1	7.6	4.9	8.3	7.7	7.5	NA
People's perception on corruption (%) ³	62	57	54	61	48	69	42	NA



Sources: ¹ Province level data from NDHS 2016. National data from Nepal's SDG status & Roadmap: 2016-2030; ² Ministry of Health (2017). Nepal Demographic and Health Survey, Kathmandu; ³ Nepal Administrative Staff College (2018), Kathmandu. Nepal National Governance Survey 2017/18. Note: The data are not available with same indicator name. Nearest indicators have been used to reflect the actual indicator in the best possible way. *This includes age from 15-49 and women only.



Developing the introduction

Overall Aim of Sustainable Development Goal 16 - Peace, Justice and Strong Institutions

Sustainable Development Goal 16 is one of the 17 Sustainable Development Goals established by the United Nations in 2015. The official wording is: **"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels"**. The Goal has 12 targets to be achieved by 2030. Progress towards targets will be measured by 23 indicators.

The goal has ten targets:

Target 16.1: Reduce violence everywhere

Target 16.2: Protect children from abuse, exploitation, trafficking and violence

Target 16.3: Promote the rule of law and ensure equal access to justice

Target 16.4: Combat organized crime and illicit financial and arms flows

Target 16.5: Substantially reduce corruption and bribery

Target 16.6: Develop effective, accountable and transparent institutions

Target 16.7: Ensure responsive, inclusive and representative decision-making

Target 16.8: Strengthen the participation in global governance

Target 16.9: Provide universal legal identity

Target 16.10: Ensure public access to information and protect fundamental freedoms

There are also two "means of achieving targets":

Target 16.a: Strengthen national institutions to prevent violence and combat crime and terrorism

Target 16.b: Promote and enforce non-discriminatory laws and policies

Reducing violent crime, sex trafficking, forced labor, and child abuse are clear global goals. The International Community values peace and justice and calls for stronger judicial systems that will enforce laws and work toward a more peaceful and just society.¹

¹ <https://sdg-tracker.org/peace-justice>

Why is it important for educational community?

Teaching SDG16-related issues is the most direct way to contribute towards SDG16. In terms of curricula, amongst the most-analysed contributions is peace and conflict studies, which is a common intervention in conflict-affected contexts. Centres for peace related education and training are present in many fragile contexts including Afghanistan, Somalia, the Central African Republic, and Sudan/South Sudan where there are at least nine centres for peace and conflict/development studies resulting from the Comprehensive Peace Agreement. Whilst new degrees on peace and governance can foster expertise, locating these subjects within a single discipline lessens the potential to educate a critical mass of students and faces obstacles to establishing new disciplines. For instance, in Syria, academic culture inhibits such new teaching programmes, with a general 'impression that ridicules all issues related to social sciences, let alone peace, government and the rule of law'. Rather than compartmentalise peace impact in a single programme, issues related to conflict and governance can be integrated throughout curricula. The SDGs represent a holistic framework, and education can foster critical thinking to work across disciplinary and sectoral boundaries.

Key dimensions of Sustainable Development 16 Peace, Justice and Strong Institutions

The world is still a long way from achieving the goal of building peaceful, just and inclusive societies, with millions of people living in fragile and conflict-affected States. At the end of 2019, 79.5 million people had been forcibly displaced worldwide, equivalent to 1 percent of the global population. The COVID-19 pandemic has exposed inequalities and discrimination and has tested, weakened, and in some cases shattered rights and protection systems in countries and territories. The United Nations recorded 69,276 civilian deaths in 12 of the world's deadliest armed conflicts between 2018 and 2020. In 2020, there were five civilians killed per 100,000 population, one in seven of which was a woman or child. Even before the pandemic, violence against children was widespread, affecting victims regardless of wealth or social status. In 77 mostly low- and middle-income countries and territories with available data from 2012 to 2020, 8 in 10 children, ranging from 1 to 14 years of age, had been subjected to some form of psychological aggression or physical punishment at home. In 2018, some 5 in 10 victims of human trafficking detected globally were women and 2 in 10 were girls. Moreover, about one-third of all detected victims were children.

About 50 percent of the detected victims were trafficked for sexual exploitation and 38 percent for forced labour. The sharp rise in unemployment brought about by the pandemic is likely to increase trafficking in persons. Data from more than 120 countries and territories indicate that people living in low-income countries and territories are those most exposed to bribery. According to the latest data available for the period from 2011 to 2020, the average prevalence of bribery in low-income countries and territories is 37.6 percent, compared to 7.2 percent in high-income countries and territories. Establishment-level data from 145 countries and territories surveyed between 2006 and 2020 indicate that almost one business in six around the world is subject to requests from public officials for bribe payments. Globally as of January 2021, 31.1 percent of parliamentarians are 45 years of age or less, up from 28.1 percent in 2018. Male parliamentarians remain predominant in the leadership positions of speaker and committee chair. In 2020, the United Nations tracked 331 killings of human rights defenders in 32 countries and territories, an 18 percent increase in 2019, and 19 enforced disappearances in 14 countries and territories. Women comprised 13 percent of victims killed and 22 percent of those forcibly disappeared. A total of 62

journalists were killed in 2020 compared to 57 in 2019, with 65 percent killed in non-conflict countries and territories. As of February 2021, laws on access to information have been adopted by 127 countries and territories, although the implementation of the laws could be improved.

Many countries and territories attempted to make data available concerning COVID-19 infections, the contracting of emergency equipment and the allocation of rescue packages and relief financing. By now only with right goals like significantly reduce all forms of violence and related death rates everywhere, end abuse, exploitation, trafficking and all forms of violence against and torture of children, promote the rule of law at the national and international levels and ensure equal access to justice for all, by 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime, substantially reduce corruption and bribery in all their forms, develop effective, accountable and transparent institutions at all levels, ensure responsive, inclusive, participatory and representative decision-making at all levels, broaden and strengthen the participation of developing countries in the institutions of global governance, by 2030, provide legal identity for all, including birth registration, ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements, strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime, promote and enforce non-discriminatory laws and policies for sustainable development, we will be on a right path to provide peace, justice and strong institutions for all of us.

The interplay between Sustainable Development Goal 16 - Peace, Justice and Strong Institutions and the acquisition of 21st century skills

Some 21st-century skills existed before the advent of modern technologies and could be taught without technological support. Critical thinking and problem solving have always been a necessary part of the learning process. Communication and collaboration have been an important part of interpersonal relations for centuries; however, all these skills take on new importance in the digital world of the 21st century. 21st-century skills comprise 2 subsets: ICT skills—pedagogical and ethical—and higher order skills: Critical thinking, creativity, problem solving, self-regulated

learning, communication, and collaboration. Using the former effectively fosters the development of the latter. In this sense, the SAMR technology adoption model classifies the use of technology into two stages: Improvement and transformation. Each stage has two elements; in the first, these are substitution and augmentation, and in the second, modification and redefinition. Substitution is concerned with the use of technology in tasks that can be performed without it, and at the higher levels deep learning is developed, critical thinking, problem solving skills, effective communication, and collaborative work are promoted an effective, relevant curriculum must incorporate important topics aligned with the interests of both students and teachers. It must be oriented towards the students' personal, moral, and social development. Communication, collaboration, critical thinking, and problem solving are relevant skills for all, and should be incorporated into the curriculum, taught, and assessed. However, 21st century skills are not part of the curriculum for a variety of reasons; some claim that they are not included because they cannot be taught, others allude to a lack of time, poor teacher preparation, and a lack of strategies for teaching transferable skills, while others suggest that they have not been implemented effectively.

Integrating these skills into the curriculum has been on the agenda of organizations such as the OECD, UNESCO, P21, etc., for some time. Theoretical frameworks have been developed to define these skills, but it is not yet clear how the curriculum should be constructed, although their interdisciplinary nature and the demand for new teaching and assessment methods to integrate them is recognized. Successfully integrating 21st century skills into the curriculum lies, at least in part, in the hands of teachers.

Activity 1

Learning Tool Code	Title
SDG16-SDGfP	Peace for me is...
Objectives	
<ul style="list-style-type: none"> - Students express their opinions about peace; - Students learn about peace activists; - To learn from others and contribute to other people's learning; - Ability to raise innovative ideas and non-traditional solutions; - Apply critical thinking and problem solving to evaluate different sources of information and arguments relevant to SDG16; - Respond positively towards achieving SDG16 	
Activity details	
<p>Materials – small pieces of coloured papers (can be in different shapes), also see annex</p> <p>Duration – 2 hours 40 min</p> <p>Number of groups - 4 groups of 4-6 students (or depending on the class number) (7th grade, ages 12-13)</p>	
Instructions	
<p>Lesson one (40 min)</p> <p>The teacher starts the lesson by asking different questions about peace. Some of the questions are:</p> <p><i>What is peace? How would you describe peace?</i></p> <p><i>Do you think peace means the same for every person?</i></p> <p><i>Describe a situation which you have chosen to resolve peacefully. Do you think that you have chosen the correct way?</i></p> <p><i>Would you choose peace over conflict? Why?</i></p> <p>The teacher gives each student a small, colored sheet of paper and gives a task. Each student to write their definition of peace. They are given some time to think and then write their definitions by completing the sentence "Peace for me is.... "After students are done with the task, the teacher collects the papers and reads them aloud. The teacher together with the students use the collected sheets and make a poster for the classroom. The title is "Peace for me is" and then the paper sheets are spread around the poster.</p>	

Lesson two (1 hour)

The teacher asks students if they know what "peace activist" is? If students are not sure the teacher explains to them that a *Peace activist is someone who advocates for peace or an end to conflicts*. Then the teacher proceeds to ask students: *Do you know any peace activists? Do you think there is an appropriate age to be a peace activist?*

The teacher then tells students the name **Malala Yousafzai** and asks students if they have heard of her. The teacher shows students a short presentation about Malala (*tip: you can choose other peace activists, I personally chose Malala because of the age*)

After the presentation is shown, the teacher opens a classroom discussion about the life of Malala. (see annex). Some of the questions are:

- *What do you think about Malala's life?*
- *Malala is a person who chose peace over conflict. What do you think about her statement: "Even if there was a gun in my hand and he was standing in front of me, I would not shoot him." Do you agree with her choice?*

Ask students to share their opinion about some of her famous quotes. (I would choose the ones about education).

Lesson three (1 hour)

On the board write Malala's quote "One child, one teacher, one pen, and one book can change the world."

Divide students into 4 groups. Each group should discuss and present their opinions on the quote.

Group one - how one child can change the world?

Group two - how one teacher can change the world?

Group three - how one pen can change the world?

Group four- how one book can change the world?

After they have time to discuss, they create a short concept and present their ideas in front of the whole class.

Additionally, they can make PowerPoint presentation with their findings or present them in a story jumper version.

Tips for the facilitator

- 1) The educator asks questions and opens discussions.
- 2) The educator helps with classroom poster.
- 3) The educator shows presentation.
- 4) The educator divides students in groups and gives assignments.

Debriefing

Students make classroom posters.

Students create presentations with the findings from their group work.

Follow-up/Inspiration for the future

The posters can also be digitized using online applications (e.g. Canva) and be posted on social media profiles or on the school's website.

References/Further reading

https://www.youtube.com/watch?v=6by9NEhT9GM&ab_channel=Biography

https://www.youtube.com/watch?v=6by9NEhT9GM&ab_channel=Biography

https://en.wikipedia.org/wiki/Malala_Yousafzai

<https://unfoundation.org/blog/post/9-inspiring-malala-quotes/>

Annex

Lesson two

PowerPoint presentation



Who is Malala Yousafzai?

Malala Yousafzai was born on July 12, 1997. Yousafzai was born in Mingora, Pakistan. Malala is a women's education activist and the youngest Nobel laureate. Her great inspiration were the thoughts of her father and the humanitarian work.

She is known for advocating for human rights, especially the education of women and children in her native Pakistan, where the local Taliban have at times barred girls from attending school. In early 2009, when she was 11-12 years old, she wrote a blog under a pseudonym describing life during the Taliban occupation. The following summer, a journalist made a New York Times documentary about her life as the Pakistani military intervened in the region.

On October 10, 2012, the Taliban tried to take her life because she bravely opposed them, as well as their intentions to ban women from accessing education. She survived a bullet in the head, which was fired by a masked Taliban to punish her for criticizing the Taliban regime on her blog, which forbids women from going to school. She was recovering after more than three months.

The world was shocked by the attempted brutal murder, and because of her courage, in 2014 she won the Nobel Peace Prize. Although she was very young, Malala was an example that children and young people can contribute to improving their own situation.

She was not discouraged by the assassination and continued to speak out about the importance of education. At no point did she think of giving up her activist engagement.

"The terrorists thought that they would change our goals and stop our ambitions, but nothing has changed in my life, except that weakness, fear and hopelessness have died. Even if I held a weapon and he was in front of me, I would not shoot him," she said in a speech to the UN.

SOME OF HER INSPIRING QUOTES

- ❖ One child, one teacher, one pen, and one book can change the world.
- ❖ **I raise up my voice - not so I can shout but so that those without a voice can be heard.** We cannot succeed when half of us are held back.
- ❖ *If one man can destroy everything, why can't one girl change it?*
- ❖ When the whole world is silent, even one voice becomes powerful.
- ❖ **With guns you can kill terrorists, With education you can kill terrorism."**
- ❖ *Education is neither Eastern nor Western, **it is human.***
- ❖ *When someone takes away your pens you realise quite how important education is.*

Activity 2

Learning Tool Code	Title
SDG16-SDGfP	Stopping bullying for stronger schools!
Objectives	
<ul style="list-style-type: none"> - Students understand the effects of bullying; - Students develop solutions to stop bullying in schools; - Self-regulation in social behaviour; - To learn from others and contribute to other people's learning; - Ability to raise innovative ideas and non-traditional solutions; - Apply critical thinking and problem solving to evaluate different sources of information and arguments relevant to SDG16; - Respond positively towards achieving SDG16 	
Activity details	
<p>Material – white papers, markers, colour pencils, also see annex</p> <p>Duration – 3h 30 min</p> <p>Group number –5 groups, 3 students each</p> <p>(5TH grade, age 10-11)</p>	
Instructions	
<p>Lesson one (1 hour)</p> <p>Each student is given two pieces of paper- one with a sad, red smiley and one with a happy, green smiley face on it. As the students are set the teacher reads aloud situations with different behaviour. After each situation, the students are supposed to raise one of the papers depending if they find the situation to be bad or not. (See annex)</p> <p>After the statements are all read the teacher starts a discussion.</p> <ol style="list-style-type: none"> 1. <i>What actions of the other child made you feel good? Why?</i> 2. <i>What actions of the other child did not make you feel good? Why?</i> 3. <i>Is a child allowed to treat you in a way that offends or hurts you?</i> 4. <i>Is an adult allowed to treat you in a way that offends or hurts you?</i> 5. <i>If someone treats you in one of the ways we mentioned, which makes you feel bad, and you do not react at all to it, what can happen?</i> 6. <i>And what will happen if you react in the same way as them?</i> 	

Lesson two (1h 30 min)

The teacher forms 5 groups of 3 students each. The teacher chooses five situations (from lesson one) and each group is given one of the situations to perform. One student will be the bully, one student will be the victim, and one student will be a teacher/parent. The victim addresses the bully with the phrase "***I do not like it when someone***" and states the abusive situation, but the bully continues so the child goes to the teacher/parent. The third child (teacher/parent) confronts both parties and asks the bully "***How would you feel if someone did...***" and states the abusive situation.

When all the performances are finished the teacher starts a discussion.

1. *Have you seen situations like these happen in your school?*
2. *How do you think situations like these affect the lives of the students?*
3. *How can these situations affect students' education?*
4. *How can these situations affect the school as an institution?*
5. *Would the students and the school show good results if they are constantly faced with such situations?*

Lesson three (1 hour)

The teacher forms 5 groups of 3 students each, but the students are now mixed from the previous activity. Each group works on ideas on how can we stop bullying and how happy students show better results, thus the school becomes a stronger institution. They write down ideas and phrases and create posters. (The students are asked to find pictures for the posters before working on this activity).

The posters can later be made into brochures for anti-bullying campaign and spread in the school.

Tips for the facilitator

- 1) Teacher gives sheets and invites students to participate in the activity
- 2) Teacher starts discussions and tries to ask as many students possible.
- 3) Teacher creates groups, gives assignments and explanations.
- 4) Teacher helps students create posters.

Debriefing

Posters can be digitalized and posted on the school's website or social media to raise awareness on the topic.

Follow-up/Inspiration for the future

Students can start an anti-bullying corner, where they can show the posters and brochures and start sessions where they can talk about the problems they may be facing and get advice on how to solve them peacefully.

References/Further reading

https://www.youtube.com/watch?v=OxbfjxyPEPk&ab_channel=UNVienna

https://www.youtube.com/watch?v=EBQROPrum2U&ab_channel=United4SocialChange

https://www.youtube.com/watch?v=xonBEFWin74&ab_channel=OIDP

<https://www.un.org/sustainabledevelopment/peace-justice/>

Annex

Lesson one

Happy sad faces



Lesson one

Situations

1. You play football with your classmates. You have the ball, you shoot, but you miss. One of the kids on your team starts **screaming** at you because you have missed.
2. You really like the sharpener that the child sitting next to you has. You take it briefly just to see it up close, and the kid starts **making fun** of you with the words "What is it? Haven't you seen what a sharpener looks like?"
3. A child brought a picture book to school that you had never seen before. Another classmate wants to look as well and they **ask** if you can look at it together.
4. You are trying to solve a math problem. The result doesn't come out right. A child **shouts** at you "Wow you are so stupid."
5. A child in the class thinks you told on them to the teacher. They come to you and **pull** you by the hair.
6. You bring a picture album at school to show to your friends. A child, after seeing that you have collected more pictures than him, comes and **threatens** to tear them if you do not give him the missing pictures.
7. You go to the schoolground to play on the slide. But at the same time another child comes who wants to slide as well. He **asks** you if you can toss a coin to see who goes first.
8. On a school break you go out to play basketball with few children. At one point you try to catch the ball, but another child also goes. You crash into one another and the kid starts **cursing** you.
9. You are waiting your turn on the swing. Just when it is your turn, another child comes, **pushes** you and starts swinging.
10. Going out the door, a child inadvertently steps on your leg. They immediately **apologize** saying that they accidentally stepped on you.
11. A child in the class can't find their color pencils anywhere. You have the same as theirs, but they think you took theirs and they start **hitting** you.
12. You want to drink water, but another child starts **pulling** your clothes so he can drink first.
13. You go to get a ball to play with. As soon as you take it, another child comes and starts **pinching** your hands to release the ball.
14. You take the sponge to wipe the board. Another child who is on duty that day comes and **asks** you to give them the sponge so they can wipe the board.
15. You walk down the hall to the classroom when several children from the higher classes appear around the corner. One of them puts on their leg and you stumble, fall, and your backpack spills. The other children **laugh** at you aloud.
16. On a break with the children from the class, you discuss which game to play. You suggest a chase and all the children agree. At that moment, the friend's older brother comes, **pulls** you by the ear and says that he does not want to repeat hundred times that his brother must not run and sweat.
17. You want to see the toy that a child brought to class. At the same time, another child wants to see it also, so they **suggest** that you see it first, then give it to them when you are done.

Sustainable Development Goal 17

Partnership for the Goals

SDG 17

Sustainable Development Goal 17 (SDG 17) is about “partnerships for the goals.” One of the 17 Sustainable Development Goals established by the United Nations in 2015, the official wording is: “Strengthen the means of implementation and revitalize the global partnership for sustainable development”. The SDGs can only be realized with strong global partnerships and cooperation.

The Targets

The Goal has 17 targets to be achieved by 2030, broken down into five categories: finance, technology, capacity building, trade and systemic issues. Progress towards targets is measured by 25 indicators.

Target 17.1: Mobilize resources to improve domestic revenue collection

Target 17.2: Implement all development assistance commitments

Target 17.3: Mobilize financial resources for developing countries

Target 17.4: Assist developing countries in attaining debt sustainability

Target 17.5: Invest in least-developed countries

Target 17.6: Knowledge sharing and cooperation for access to science, technology and innovation

Target 17.7: Promote sustainable technologies to developing countries
Target 17.8: Strengthen the science, technology and innovation capacity for least-developed countries
Target 17.9: Enhanced SDG capacity in developing countries

Target 17.10: Promote a universal trading system under the WTO
Target 17.11: Increase the exports of developing countries

Target 17.12: Remove trade barriers for least-developed countries
Target 17.13: Enhance global macroeconomic stability

Target 17.14: Enhance policy coherence for sustainable development
Target 17.15: Respect national leadership to implement policies for the sustainable development goals

Target 17.16: Enhance the global partnership for sustainable development

Target 17.17: Encourage effective partnerships
Target 17.18: Enhance availability of reliable data

Target 17.19: Further develop measurements of progress

Why is it important?

A successful sustainable development agenda requires partnerships between governments, the private sector and civil society. These 17 ambitious goals and the complex challenges they seek to address fit neither neatly demarcated sectors, nor national borders. Climate change is global, and businesses are just as important to fighting it as governments. Innovation can't happen without universities and scientists, and certainly not without exchange of knowledge across continents. Gender equality is as much about communities as it is about legal instruments. If our epidemics are global, their solutions are too. Inclusive partnerships built upon a shared vision and shared goals that place people and the planet at the centre, are needed at the global, re-



gional, national and local level.

SDG 17 refers to the need for cross sector and cross country collaboration in pursuit of all the goals by the year 2030. It is a call for countries to align policies. SDG 17 is a vision for improved and more equitable trade, as well as coordinated investment initiatives to promote sustainable development across borders. It is about strengthening and streamlining cooperation between nation-states, both developed and developing, using the SDGs as a shared framework and a shared vision for defining that collaborative way forward. It seeks to promote international trade, and help developing countries increase their exports to ensure a universal rules-based and equitable trading system that is fair, open and beneficial to all.

The Challenge

This is the challenge that brings our efforts on all the other 16 goals together. An ambitious and interconnected global development agenda requires a new global partnership – this includes financing development, connecting people through information technology networks, international trade flows, and strengthening data collection and analysis. Even as the world comes together to unite for global development – in 2018, official development assistance stood at USD 153 billion, a small decrease of 0.6% from 2016 in real terms – only five countries met the UN target of providing official development assistance to the tune of 0.7% of their gross national income in 2018. People around the world come closer together through physical and digital networks – well over half of the world's population (more than 4 billion user) is now online, with the latest data showing that nearly a quarter of a billion new users came online for the first time in 2017.

Many countries require Official Development Assistance to encourage growth and trade. Yet, aid levels are falling and donor countries have not lived up to their pledge to ramp up development finance.

Due to the COVID-19 pandemic, the global economy is projected to contract sharply, by 3 per cent, in 2020, experiencing its worst recession since the Great Depression.

The UN Secretary-General gave a development of strategy that spread out a dream for how the global network can show a powerful, organized reaction to the COVID-19 pandemic.

How can we address this?

Urgent action is needed to mobilise, redirect and unlock the transformative power of trillions of dollars of private resources to deliver on sustainable development objectives. Long-term investments, including foreign direct investment, are needed in critical sectors, especially in developing countries. These include sustainable energy, infrastructure and transport, as well as information and communications technologies. The public sector will need to set a clear direction. Review and monitoring frameworks, regulations and incentive structures that enable such investments must be retooled to attract investments and reinforce sustainable development. National oversight mechanisms such as supreme audit institutions and oversight functions by legislatures should be strengthened.

Links to other SDGs

The success of the 2030 agenda requires inclusive partnerships to achieve the common goals adopted. These partnerships need to be set at the different constituencies (local, national, regional and global level) and consider the Sustainable Development Goals' principles, vision and



values to place people and planet first now more than ever to recover from crisis and build back while achieving the SDGs.

More often than not, the actualization of the SDGs, at the global level, depends on the effectiveness of the official development assistance. The Official development assistance needs to leverage on international collaboration for the public financing of the developing countries that remained unfulfilled by the donors. It is the responsibility of the official development assistance to ensure that, most developing countries are supported in areas of water and sanitation related activities and programs rather than making use of their domestic resources, tariffs and public finance obtain through taxation.

17

Partnership for the goal

2015-2019 Output, Impact, Collaboration

Research supporting SDG17 has grown since 2015, with a compound annual growth rate of 11.9% compared to nearly 3.5% for research in all fields

Yet the data shows that more research is needed on SDG17. Research output, at 229 total publications, was the lowest among all the SDGs, and nearly 100% lower than SDG3 which had the highest output with more than three million total publications.

In order to advance the SDGs, partnerships are vital. They can help scale ambition and complement the strengths of respective partners, providing new perspectives on challenges. Prospective partners may have specialist sector knowledge, on the ground expertise, and/or provide access to key stakeholders which one partner does not have. Transparency is critical and partners should be clear about expectations and engage frequently.

A key RELX partner on the SDGs is the United Nations Global Compact (UNGC) which brings UNGC signatories together with civil society partners to plan projects and develop tools and guidance that can help all companies increase their SDG performance. We support the UNGC SDG8 Action Platform – Decent Work and Economic Growth – which helps business address important SDG8 targets such as 3.7, “Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour.”

The UNGC is a partner, along with Global Citizen, the Ban Ki-Moon Centre for Global Citizens, and the Responsible Media Forum on RELX

Key themes in SDG17 Research

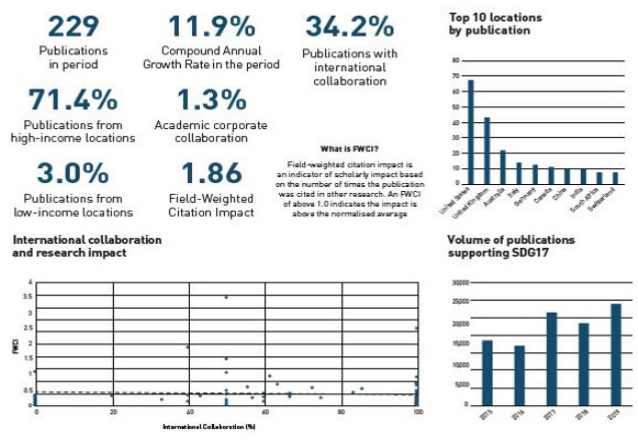
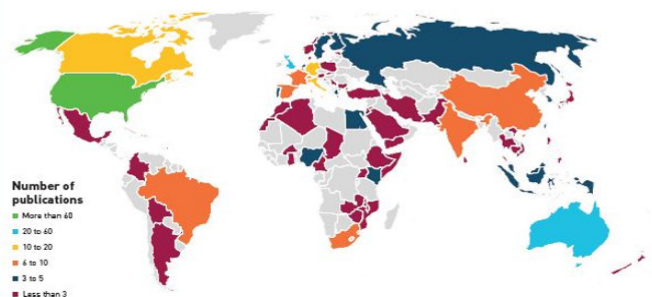
Public-private Partnership
Global Health
Small Island Smart City
Developing Country
Resilience
Public-private Partnership
Global Health
Small Island Smart City

This analysis builds on Elsevier's Sustainability Science in a Global Landscape report, which was released in 2015 to coincide with the launch of the SDGs. See a 2017 update on key findings on the RELX SDG Resource Centre. Help us to provide insight into SDG research. [Click here to review the research.](#) [See the methodology and definitions.](#)

RELX
SDG Resource Centre

ELSEVIER

RELX and the RE symbols are trademarks of RELX Group plc, used under license. Elsevier is a registered trademark of Elsevier B.V. © 2020 RELX Sources: Scopus®



Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Achieving the ambitious targets of the 2030 Agenda requires a revitalized and enhanced global partnership that brings together Governments, civil society, the private sector, the United Nations system and other actors and mobilizes all available resources. Enhancing support to developing countries, in particular the least developed countries and the small island developing States, is fundamental to equitable progress for all.



How can you act?

- 1) Join/create a group in your local community that seeks to mobilize action on the implementation of the SDGs.
- 2) Encourage your governments to partner with businesses for the implementation of the SDGs.
- 3) Petition the government to address specific issues under the SDGs in your region.

17 PARTNERSHIPS FOR THE GOALS





Developing the introduction

Overall Aim of Sustainable Development Goal 17 - Partnerships for the goals

Sustainable Development Goal 17 is about "partnerships for the goals." It is one of the 17 Sustainable Development Goals established by the United Nations in 2015, and the official wording is: "**Strengthen the means of implementation and revitalize the global partnership for sustainable development**". The Goal has 17 targets to be achieved by 2030, broken down into five categories: finance, technology, capacity building, trade, and systemic issues. SDG 17 has 19 targets and 24 indicators used to measure progress. The targets are:

Target 17.1: Mobilize resources to improve domestic revenue collection

Target 17.2: Implement all development assistance commitments

Target 17.3: Mobilize financial resources for developing countries

Target 17.4: Assist developing countries in attaining debt sustainability

Target 17.5: Invest in least-developed countries

Target 17.6: Knowledge sharing and cooperation for access to science, technology and innovation

Target 17.7: Promote sustainable technologies to developing countries

Target 17.8: Strengthen the science, technology and innovation capacity for least-developed countries

Target 17.9: Enhanced SDG capacity in developing countries

Target 17.10: Promote a universal trading system under the WTO

Target 17.11: Increase the exports of developing countries

Target 17.12: Remove trade barriers for least-developed countries

Target 17.13: Enhance global macroeconomic stability

Target 17.14: Enhance policy coherence for sustainable development

Target 17.15: Respect national leadership to implement policies for the sustainable development goals

Target 17.16: Enhance the global partnership for sustainable development

Target 17.17: Encourage effective partnerships

Target 17.18: Enhance availability of reliable data

Target 17.19: Further develop measurements of progress

Why is it important for educational community?

Children who are in school now will grow up to be adults in an increasingly interconnected and multicultural society. Students need to be aware of cultural norms and differences around the world so that they can succeed and thrive. The SDGs are universal goals for all people and are inherently global in nature. Learning about these initiatives helps students develop insights into issues around the world, such as lack of access to clean water and gender equality. These issues are inseparable from culture, and to truly understand the SDGs, students need to learn about the world around them. SDG 17 aims to revitalize and enhance the ability for governments, civil society, the private sector, the UN and other stakeholders to mobilize the necessary resources. Improving effective support for developing countries, in particular, the least developed countries and small island states is essential to equal progress for all. Failing to leverage global partnerships will result in wasted money, wasted time and wasted lives. When governments, businesses and civil society focus on their areas of expertise and collaborate on solutions, we can improve efficiency and ensure everyone is aware of the priority actions they can take to address their areas of responsibility.

Key dimensions of Sustainable Development 17 Partnerships for the goals

SDG 17 calls for a global partnership for sustainable development. The goal highlights the importance of global macroeconomic stability and the need to mobilize financial resources for developing countries from international sources, as well as through strengthened domestic capacities for revenue collection. It also highlights the importance of trade for developing countries and equitable rules for governing international trade. SDG 17 furthermore emphasizes the importance of access to science, technology and innovation, in particular internet-based information and communications technology. To achieve the SDGs, partnerships are necessary between governments, the private sector, civil society and other parties. Wealthier economies such as the EU can support the implementation of the 2030 Agenda in developing countries through public and private, domestic and international resources. These resources can be both financial and non-financial. The world today is more interconnected than ever before, in part due to digital technology. The SDGs can only be realized with a strong commitment to global partnership and cooperation. Coordinating policies to help developing countries, particularly least-developed countries, is vital to achieving sustainable growth and development. This includes supporting these countries in managing their finances, including debt, as well as promoting investment.

The interplay between Sustainable Development Goal 17 Partnerships for the goals and the acquisition of 21st century skills

Skills needed to be successful in the world have changed, and there is a gap between those learned at school and those required to function at work and in society. A broader range of skills is required to learn, communicate, collaborate, and solve problems in digital environments. Twenty-first century skills have been identified by UNESCO, OECD, and others as competences required for a sustainable future of the knowledge society. The aim was to learn the design principles involved in the incorporation of these skills into the curriculum, find out possible ways to teach and assess them, and examine how this process could be personalized using Information and Communications Technology (ICT). Addressing complex challenges and current and future uncertainty are at the heart of Agenda 2030 and are therefore the focus of the 17 Sustainable Development Goals (SDG) originally conceived by the UN. The SDGs address critical global challenges, and to overcome them, everyone requires key competences that enable them to engage constructively and responsibly with today's world and to actively participate in the necessary transformations. The aim is to promote comprehensive Education for Sustainable Development (ESD) and Education for Global Citizenship (EGC) programs through 21st century skills, focused on providing sustainability education for future generations of professionals. There are various conceptions about the 21st century that have been proposed by organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Organization for Economic Co-operation and Development (OECD), Partnership for 21st Century Skills (P21), Assessment and Teaching of the 21st Century Skills (ATC21S), etc. All of them have proposed to place 21st century skills at the heart of individual learning. Initiatives range from those whose main concern is preparation for the world of work and future jobs in the idea of maintaining the economy, to others whose primary focus is a commitment to a sustainable economy and awareness of the importance of the conservation of the planet and its resources. While agreeing on the fundamentals, each organization brings in complementary ideas to the concept of 21st century skills.

Activity 1

Learning Tool Code	Title
SDG17-SDGfP	Partnerships for the goals
Objectives	
<ol style="list-style-type: none"> 1. The student learns about the importance of the 17 Sustainable Development Goals 2. The student learns about the importance of global action to achieve goals 3. The student explains the goals of the 17th goal of sustainable development 4. The student learns about the importance of communication as the strongest link for further sustainable growth and development 5. The student explains the importance of cooperation between governments and the business sector and civil society to make progress 6. Scholars learn about the importance of reducing the external debts of poor countries 7. The student learns about the importance of improving the exchange of knowledge among the population (through the introduction of better Internet connections) 8. The student learns about the importance of promoting a single and equal market in the world 9. The student cooperates in a team 10. The student applies critical thinking to problem solving 11. The student develops a positive attitude towards learning new content (SDG goal 17) 	
Activity details	
<ul style="list-style-type: none"> - materials - in the attachment - duration of the activity - 90 min - a group of 20- 25 students (8th Grade, 13- 14 years) 	
Instructions	
<p>Activity 1: introduction to the topic - asking questions (10 min)</p> <p>The teacher introduces the students to the topic by asking questions:</p> <ol style="list-style-type: none"> 1. Have you heard of the 17 Sustainable Development Goals? 2. Do you know what sustainable development is? 3. Do you know which organization cares about achieving the goals of sustainable development? 4. Can you as individuals influence the achievement of sustainable development goals? 	

5. Can global goals be achieved if not all countries participate equally in achieving the goals?

Activity 2: 15 min

After the students have given answers to the questions asked and discussed the answers given, they are released two videos that will introduce them to the goals of sustainable development. The videos will give them a brief explanation of the questions asked in the introductory part of the lesson.

<https://youtu.be/PZbqIVgQyks>

<https://www.youtube.com/watch?v=g-xdy1Jr2eg&t=191s>

After watching the video, students talk about what they saw in the video. They comment and exchange opinions on whether in the introductory part of the lesson they gave similar answers to the questions asked at the beginning of the lesson with explanations mentioned in the video.

1. In which years have the Sustainable Development Goals been set?
2. What is the name of the organization behind setting sustainable development goals?
3. How many countries have accepted the Goals?
4. In which three groups can we classify the goals?
5. Can the goals be achieved if they are not connected, if they are not connected through all three groups?
6. Can they be achieved if countries, if people, do not act globally and connected?

Students receive material from the Annex which explains in more detail what sustainable development is, what the goals of sustainable development are, what the goal of the 17th Sustainable Development Goal is, how the Covid-19 pandemic affected the 17th goal of sustainable development and what are the possible ways to the 17th goal of sustainable development is achieved. Students also get acquainted with the situation in Croatia and learn what are the priority areas for Croatia when it comes to helping other countries.

TIP (if the material is taught in another country, the lesson can be changed with data from that country)

Activity 3: 65 min

Students are given the task to be divided into groups of 5 students. Each group is given the task of devising which three sustainable development goals offered from Annex (picture with the goals) would link them together to achieve the goals and must suggest several ways in which the goals could be achieved.

The goals of sustainable development must be chosen so that each is from one of three groups: environment, society, and economy. It is necessary to devise a plan to link the three selected objectives and make a few suggestions on how to achieve them (for example Objective 1. A world without poverty can be linked to Objective 8. Decent work and economic growth and Objective 13. Climate protection). A world without poverty can be achieved by employing people and giving them the opportunity for decent work that will provide people with a livelihood. During the growth of the economy and the development of new jobs, for example, it is necessary to take care of climate protection in factories (by preventing unnecessary pollution from industry). This is just one example of connecting from different groups that encompass all 17 goals.

Once students have chosen which three goals to connect, they need to be able to learn more about each goal. For this reason, short videos about each goal are attached, which students will watch to get additional information about each selected goal.

Goal 1. No poverty

<https://www.youtube.com/watch?v=TfOJ7HNo-qE>

Goal 2. Zero hunger

<https://www.youtube.com/watch?v=XblXxDMeRGA>

Goal 3. Good health and well- being

https://www.youtube.com/watch?v=9qiVBF_7wvY

Goal 4. Quality education

<https://www.youtube.com/watch?v=4HXyJmY--gM>

Goal 5. Gender equality

<https://www.youtube.com/watch?v=-hc0kZh6CnM>

Goal 6. Clear water and sanitation

<https://www.youtube.com/watch?v=7x2Ch-aMqEY>

Goal 7. Affordable and clean energy

<https://www.youtube.com/watch?v=jlWfQoycRPE>

Goal 8. Decent work and economic growth

<https://www.youtube.com/watch?v=xcZamDv2DZQ>

Goal 9. Industry, innovation and infrastructure

<https://www.youtube.com/watch?v=HjX4rlMP-eg>

Goal 10. Reduced inequalities

<https://www.youtube.com/watch?v=H4pl2XcCHbw>

Goal 11. Sustainable cities and communities

<https://www.youtube.com/watch?v=VrBrpSTwPK8>

Goal 12. Responsible consumption and production

<https://www.youtube.com/watch?v=2MxKrGXAYH8>

Goal 13. Climate action

<https://www.youtube.com/watch?v=6YqmEYlg4lY>

Goal 14. Life below water

<https://www.youtube.com/watch?v=pMp2raQ3pwg>

Goal 15. Life on land

<https://www.youtube.com/watch?v=P-vXJ387FRY>

Goal 16. Peace, justice and strong institutions

<https://www.youtube.com/watch?v=-3cDFEw1bhY>

Goal 17. Partnerships for the goals

<https://www.youtube.com/watch?v=4uThMopgjB0&t=9s>

Tips for the facilitator

- the teacher asks questions and tries to involve as many students as possible in the answer
- after the students independently study the working material from the attachment, they try to play a game, which asks them for the answers that were in the working materials
- the teacher has the role of helper, leader, and guides students when they need help

Debriefing

Students present the results of their research to the whole class. The presentation can be made in any of the digital tools like PowerPoint or Sway.

Follow-up/Inspiration for the future

Information on social media, school website.

References/Further reading

<https://www.youtube.com/watch?v=TfOJ7HNo-qE>
<https://www.youtube.com/watch?v=XblXxDMeRGA>
https://www.youtube.com/watch?v=gqiVBF_7wvY
<https://www.youtube.com/watch?v=4HXyJmY--gM>
<https://www.youtube.com/watch?v=-hc0kZh6CnM>
<https://www.youtube.com/watch?v=7x2Ch-aMqEY>
<https://www.youtube.com/watch?v=jLWfQoycRPE>
<https://www.youtube.com/watch?v=xcZamDv2DZQ>
<https://www.youtube.com/watch?v=HjX4rlMP-eg>
<https://www.youtube.com/watch?v=H4pl2XcCHbw>
<https://www.youtube.com/watch?v=VrBrpSTwPK8>
<https://www.youtube.com/watch?v=2MxKrGXAYH8>
<https://www.youtube.com/watch?v=6YqmEYlg4lY>
<https://www.youtube.com/watch?v=pMp2raQ3pwg>
<https://www.youtube.com/watch?v=P-vXJ387FRY>
<https://www.youtube.com/watch?v=-3cDFEw1bhY>
<https://www.youtube.com/watch?v=4uThMopgiBo&t=gs>

Annex

Picture with the goals



Activity 2 - Questionnaire

1. In which years have the Sustainable Development Goals been set?

2. What is the name of the organization behind setting sustainable development goals?

3. How many countries have accepted the Goals?

4. In which three groups can we classify the goals?

5. Can the goals be achieved if they are not connected, if they are not connected through all three groups?

6. Can they be achieved if countries, if people, do not act globally and connected?

Activity 2- Lesson materials

PARTNERSHIPS FOR THE GOALS, Goal 17.

Objective: - to help implement all other sustainable development goals (from 1-16)

GENERAL ABOUT 17 SUSTAINABLE DEVELOPMENT GOALS

The Seventeen Sustainable Development Goals are new universal and global goals that United Nations members are expected to use in shaping their programs and policies over the next fifteen years. In August 2015, 193 countries agreed on the next seventeen targets and their 169 associated targets, which will run until 2030. The goals are aimed at creating a better future for people and the planet. The goals are to further build partnerships between countries. All goals are complete and indivisible and, in addition to partnership

and peace, are based on three basic dimensions of sustainable development: society, environment and economy.

WHAT IS SUSTAINABLE DEVELOPMENT?

There are many definitions of sustainable development that can be interpreted depending on the perspective. Yet, each definition has a common term balance that refers to meeting the needs of the present generation, without compromising the ability of future generations to meet their own needs. And while definitions have changed throughout history, the core has remained the same. The difference is that sometimes the focus was more on the environment or social rights.

Today, sustainable development is based on understanding the interconnectedness of its three fundamental components: society, the environment, and the economy. The balance between all three components and its operationalization in practice ensures the long-term development of human society in a preserved environment.

The United Nations is the main organization that provides guidelines for sustainable development.

GOAL 17.

Goal 17 of Sustainable Development aims to help the other 16 goals of sustainable development be successfully implemented and applied in people's daily lives. To achieve this, Goal 17 emphasizes the importance of co-operation and communication between national governments, the private sector, and the local community, but also co-operation between countries. Special emphasis is placed on improving cooperation between the Nordic countries, which cover most of North America, Europe, northern Asia and Australia, and the southern countries, which include South America, Africa and southern Asia.

This goal seeks to strengthen the use of indigenous resources through international assistance. International assistance would function based on giving a share of total national income to developing and underdeveloped countries. Additional aids would come from foreign investors and co-operation with neighboring countries.

Achieving this goal aims to achieve:

- reducing the external debts of poor countries and finding a way to repay existing ones
- improve the exchange of knowledge among the population by introducing faster and more stable internet connections worldwide

- promote a single, equal, and more open market by equalizing the average price of customs duties in the world
- increase the share of the least developed countries in the world in total world exports
- improve overall economic stability in the world

In today's "digitized" world, the Internet is key to many activities, especially after the Covid-19 pandemic. But half of the world's population still does not have access to the Internet. At the end of 2018, only about 20% of the total population of parts of Africa and Oceania had Internet access, compared to about 85% of the total population of Europe and North America. In 2019, one sixth of the population of developing countries had an Internet subscription, while in the least developed countries such a possibility is almost non-existent due to lack of infrastructure. This is precisely one of the key issues yet to be addressed; by introducing communication and information technology in the least developed countries in the world.

THE COVID- 19 PANDEMIC AND THE GOAL 17.

The pandemic has greatly set back this goal. Monetary resources have decreased, and market tensions have increased. Also, there was a decline in domestic and foreign investment, donations, and market exchange in general.

Part of the funds to help developing countries was used to reduce the impact of the pandemic on the global economic situation. From 2021 onwards, the available funds for assistance to developing countries are projected to fall by 20%, and foreign direct investment to fall by 40% so far. In general, the pandemic has disrupted the exchange of market goods so far and slowed market equalization. The previously mentioned harmonization of customs values becomes impossible because there is a new trend of contracting among developed countries, which directly reduces the competitiveness of developing countries.

SITUATION IN CROATIA

2018 The Commission for Development Cooperation and Humanitarian Aid Abroad was established, which is Croatia's basis for assistance to other countries. Priority areas of Croatian assistance are: Southeast Europe (Bosnia and Herzegovina, Albania, Montenegro, Kosovo, Northern Macedonia, Serbia), and southern and eastern countries (Jordan, Ukraine, Egypt, Iraq, Lebanon, Syria) and other developing countries. (Afghanistan, Colombia, Tanzania).

The Platform for International Civic Solidarity of Croatia, established in 2014, serves to promote activities in the field of international development cooperation and humanitarian aid. Numerous conferences were organized to raise awareness of UN goals in the private and academic sectors, and the student community was informed with promotional material.

Activity 2

Learning Tool Code	Title
SDG17-SDGfP	Stronger together!
Objectives	
<ul style="list-style-type: none"> - Students learn the importance of the SDGs; - Students think critically; - Students work goal-directed; - Students are able to define alternatives for action and set priorities; - Students are able to make smart and informed decisions; - Claim values that are in line with SDG17; - Respond positively towards achieving SDG17; - Understand the importance of working together with others in order to succeed; 	
Activity details	
<p>Material –bowl, small papers</p> <p>Duration – 3 h 30 min</p> <p>Group number –3 groups, 5-6 students each</p> <p>(8TH grade, age 13-14)</p>	
Instructions	
<p>Lesson one (1h 30 min)</p> <p>The teacher starts the lesson by placing flashcards with the SDGs on the blackboard. When all the flashcards are placed, they ask the students if they recognize any of them. (You can also show a short video https://www.youtube.com/watch?v=0XTBYMfZyrM&t=41s&ab_channel=UnitedNations, or use the hotspot image https://www.bookwidgets.com/play/JKJEPX)</p> <p>The students may or may not recognize the flashcards, so the teacher quotes the goals and asks the students:</p> <ol style="list-style-type: none"> 1. <i>What do you think these Goals are for?</i> 2. <i>Do you think we need these Goals in our lives?</i> 3. <i>Why would people find these Goals important?</i> <p>When the discussion is over the teacher plays a video about the SDGs. (https://www.youtube.com/watch?v=bB4ITPO_3PI&ab_channel=mppsmk)</p>	

When the video is finished the teacher encourages a discussion.

1. *What do the Goals mean to you?*
2. *How are the issues that these Goals cover important to us?*
3. *Why is it important for people to achieve the Goals?*

Lesson two (2 hours)

The teacher places a bowl in front of the students. Then they ask each student to get a piece of paper, write the Goal that is the most important to them on it and place it in the bowl. When they all place the papers, the teacher takes them out, reads them aloud, and matches the same answers. The teacher chooses 3 Goals that have the most votes, writes numbers 1-3 on papers, places them in the empty bowl, and lets students choose papers to divide them into groups. When the groups are set the teacher asks the students to work together in the groups and do a short oral presentation of why they find that Goal to be important. The teacher gives them time to prepare and present their findings.

When they finish the presentations, the teacher mixes the students in different groups so in each group there is a student from group 1, group 2 and group 3.

(The groups are formed in that way so that in each there is a student who will share what they have learned working in the previous group)

The teacher gives them an assignment- each group to prepare a list of at least 10 things that we can do to achieve the Goals.

Group one – steps to achieve the SDGs at home;

Group two – steps to achieve the SDGs at school;

Group three – steps to achieve the SDGs in our community.

The teacher gives a week's time to do online research and finalize the steps.

After the research is done, students create brochures with a checklist of the steps that they have chosen. The brochures are designed to remind people of the Goals and to be a guide towards more sustainable living.

Tips for the facilitator

- 1) Teacher asks questions about the SDGs.
- 2) Teacher encourages a discussion about the SDGs.

3) Teacher invites students to share the results from the group work.

The goal of the groups is for the students to apply the previously acquired knowledge and thus to contribute to the team work and to the successful execution of the work task.

Debriefing

Students design brochures with steps towards achieving the Goals. The brochures are spread to teachers in the school and to people around the school.

Follow-up/Inspiration for the future

Brochures can be made in the Canva application. Once digitized, brochures can be posted on the school website or social media profiles.

References/Further reading

[https://www.youtube.com/watch?v=0XTBYMfZyrM&t=41s&ab_channel=UnitedNations,](https://www.youtube.com/watch?v=0XTBYMfZyrM&t=41s&ab_channel=UnitedNations)

<https://www.bookwidgets.com/play/JKJEPX>

https://www.youtube.com/watch?v=bB4ITPO_3PI&ab_channel=mppsmk

<http://www.teachsdgs.org/resources.html>

Annex

Activity 3

Learning Tool Code	Title
SDG17-SDGfP	Unity makes strength
Objectives	
<ul style="list-style-type: none"> • The effectiveness of the team organization is determined by its importance for the socialization of participants, the formation of skills for teamwork, the education of personal qualities: tolerance, empathy, tolerance, respect and esteem of the teammate - his personality and position. The social function of the team organization of the training is expressed in the assimilation by the children of experience for full personal-individual expression within the group, and hence in the society. • Students realize that when everyone acts together, the goal is achieved and success is a must. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - The students prepared materials for each purpose. ❖ Duration - 90 minutes ❖ Number of groups - several groups of students - (5 grade, ages 11-12) 	
Instructions	
<p>The motto "Unity makes strength", inscribed on the state coat of arms and on the facade of the National Assembly building, as well as the wreath of flowers around the denomination of the first Bulgarian coins, are cut on all coin issues from 1881 - copper, copper-nickel, zinc , aluminum and iron. An exception is made only when, instead of the state coat of arms, the images of Prince / Tsar Ferdinand I, Tsar Boris III, the Madara Horseman and the so -called small coat of arms are cut on the pennies (denominations 1, 2, 2 ½, 5, 10 and 20).</p> <p>We all know the ancient legend of Khan Kubrat and the will to his sons. Kubrat ordered a bundle of sticks to be brought. When the sticks were in a bundle, none of his sons were able to break the bundle. But when they scattered the sticks, they broke very easily one by one. Thus the khan bequeathed to them always to be together and never to divide, so that they would be strong and invincible, because otherwise they would be weak individually and any enemy could break them.</p> <p>Today, all of you have been tasked with finding interesting facts to introduce us to any global goal of sustainable development.</p>	

16 students present the synthesized information to the class.

Goal 1- No poverty

Did you know that:

- 1,345 million people worldwide live on less than \$ 1 a day? And that in the 21st century there are countries where people are dying of hunger or lack of drinking water! See the shocking facts of world poverty and remember them the next time your life seems difficult!
- 80% of the world's population lives on less than \$ 10 a day.
- 5.6 billion people worldwide handle less than \$ 10 a day.
- 1 in 7 people in the United States live below the poverty line. Poverty is not limited to Africa. Even in the United States, the gap between rich and poor is widening and more and more people are living on the streets. Poverty is not limited to Africa. Even in the United States, the gap between rich and poor is widening and more and more people are living on the streets. Even in a developed country like the United States, as many as 47 million people rely on livelihoods.

10 of the poorest countries in the world

Determining the level of income of a country involved in experts from the World Bank. They collect data on per capita GNI and the rate of GDP growth, government revenue, imports and exports - see, the result is as objective as possible. Of course, the level of unemployment in these countries is also an excluded scale, as, accordingly, the level of crime.

Madagascar - GDP per capita: \$ 950

In the last ten years, the population of Madagascar has been in a very unpleasant situation. The financial crisis has put much of the population on the brink of the current famine. Maybe on the island it looks fantastic - but this tale is quite grim.

Togo - GDP per capita: \$ 900

A small country in West Africa is unable to cope with the crisis. The government, in recognition of it, is trying to do everything possible to lift people out of poverty - free education and medicine a little brighter local life.

Malawi - GDP per capita: \$ 850

And here is the problem with medicine. Across the country it falls on the strength of five hospitals to get an appointment with a doctor - almost unrealistic. Life in Malawi does not seem to have developed in the last few centuries: huts, hunting and gathering, poverty and early death.

Central Africa - GDP per capita: \$ 700

People spend all their time at work - and that's still not enough to feed their families. In general, local people are engaged in agriculture, but the climate is not the most suitable for agriculture in Africa.

Nigeria - GDP per capita: \$ 600

Overall, the Nigerian government is showing a very good side: the standard of living of the local population is growing - albeit quite slowly.

Zimbabwe - GDP per capita: \$ 550

Almost the entire territory of Zimbabwe is occupied by small villages, people are trying to live in agriculture because they are almost there for other work. Unemployment is about 90%.

Burundi - GDP per capita: \$ 500

The world's largest economies, such as the United States and Britain, spend billions of dollars each year to support Burundi. Unfortunately, at the moment the result is almost imperceptible: Burundians are still on the brink of poverty.

Eritrea - GDP per capita: \$ 400

Surprisingly, Eritrea's natural resources are so impressive that the country may even be interested in the United States with its desire to spread democracy in oil-rich areas. But local people have failed to raise their standard of living.

Congo - GDP per capita: \$ 350

Congo's independence was the last straw: poverty, looting, early death - people have long since stopped hoping for a better life. *Liberia - GDP per capita: \$ 300* If not to provide for more developed countries, local simply can not be maintained.

And here - the poorest country in the world. Tens of thousands of people are killed here every year, from the usual malnutrition. Financial resources and the amount of food is so low that experts have called for the inevitable collapse of the whole country.

Goal 2- Zero hunger

Did you know that:

- One-eighth of the world is starving
 - There is a shortage of food for about a billion people on Earth. That is why many fall asleep hungry. 70% of the population of South Sudan knows what food shortages are. In second place in terms of hunger is Kenya, with 51% of starving people. At the same time, in order to feed all the poor countries of Africa, it is enough to collect all the food thrown away by the inhabitants of developed countries around the world.
 - A person can live without food for 40 days. If you do not experience strenuous exercise, a person can live without food for 40 days. It has been proven that after the third day of starvation, the body begins to strengthen its immune system. The reason is the powerful secretion of stem cells during starvation. During this period, the body also reduces the concentration of the enzyme responsible for aging and the hormone that stimulates the growth of cancerous tumors.
 - Fasting is the most dangerous method of losing weight. Eating practically nothing is the most ineffective way to lose weight. Lack of fuel in the body drastically reduces the amount of glucose in the blood and consequently reduces the amount of insulin responsible for burning fat in the cells. Thus, during complete starvation, acetone bodies accumulate in the body, which increases the acidity in the blood, and this poisons the whole body. After the end of hunger, the body not only regains its weight, but also stores it for the future.
 - Cannibalism - There are still places in the world where you can come across cannibals. This is possible in southeastern Papua New Guinea, India, Cambodia, Fiji, Brazil, West Africa and the Congo. It is best not to fall before the eyes of the starving there.
- Malnutrition - A major socio-economic and health problem in developing countries and for part of the population of developed countries is malnutrition. Severe malnutrition (hunger or malnutrition) is widespread in large geographical regions. Malnutrition is particularly detrimental to children, whose energy and nutrient needs are higher than those of adults. Early infant mortality, physical and neuropsychological disorders, weight loss, higher incidence and more severe infectious diseases are consequences of malnutrition in both mothers during pregnancy and children after birth. According to the

WHO, about 10-15% of the population of our planet is starving, and partial malnutrition affects about 50%. There is currently a sharp increase in population, which is not accompanied by a parallel increase in food production. It is estimated that the population of developing countries with their daily diet receives 1/3 to 1/2 less energy, almost twice less protein and five times less animal protein than the population of developed countries. Most people in Africa, Asia and Latin America consume only 6 - 15 g of animal protein per day, at an optimal rate of 50 - 60 g. As a result of malnutrition, millions of people around the world suffer from cachexia, insanity, hypo- and avitaminosis, anemia, infectious and parasitic diseases. Malnutrition associated with protein deficiency is the cause of high morbidity and mortality due to low immune protection of the population. There are more frequent and more severe illnesses than a number of infectious and non-infectious diseases.

Goal 3- Good health

Did you know that:

- 90% of malaria deaths are in Africa. 80% of the dead are children
- It is even sadder when you remember that malaria is curable, but in these parts of the world people do not have access to health care and medicines. Countries in the world with the lowest life expectancy:

Swaziland - 31.9 years

The kingdom is small - no more than 200 square kilometers.

More than two-thirds of the population find it difficult to meet even basic needs such as food and shelter. AIDS here spreads uncontrollably.

Angola - 38.3 years

Located in South Africa. It borders the Democratic Republic of the Congo, Namibia and Zambia. The capital is Lunda. After almost three decades of civil war and enormous poverty, the average life expectancy is 38.2 years.

Zambia - 38.6 years

Located in South Africa. It borders the Congo, Tanzania, Malawi, Botswana, Namibia and Zimbabwe. Lusaka is the largest city. 64% of the country's population lives on less than \$ 1 a day.

Lesotho - 40.4 years

Just over 2 million people live here. The largest city is Maseru. About 40% of the population lives below the poverty line.

Mozambique - 41.1 years

The country borders the Indian Ocean to the east, Tanzania to the north, Zimbabwe to the west. The capital and largest city is Maputo. 24 million people live here. Poverty and lack of access to medical services are the reason for the low life expectancy.

Sierra Leone - 41.2 years

Located in West Africa. It is a constitutional republic. The average citizen does not live much longer than 40 years here.

Liberia - 41.8 years

Located in West Africa. It has an area of 111,369 square kilometers and a population of 3.7 million people. English is the official language here. Another 30 types of local dialects are spoken.

Djibouti - 43.4 years

It is located between Eritrea and Ethiopia. It has a population of 790,000 people. The country suffers from poor health care and lack of health care in general in entire regions.

Malawi - 43.8 years

It is a small country in Southeast Africa. It borders Tanzania, Zambia, Mozambique. A population of 14.9 million people lives on 118,000 square kilometers. Extreme poverty and high crime contribute to low life expectancy.

CHAD - 44.5 years

The population is 4.4 million people. Chad's neighbors are Sudan, the Democratic Republic of the Congo, the Republic of the Congo and Cameroon.

Goal 4- Quality education

Did you know that:

- 17% of the world's population cannot read or write.
- \$ 6 billion would be enough to provide education for all. This is the revenue of a large company for the year.
- Educational systems, which strive for high efficiency of the educational process, define as their main goal the provision of equal access to education. Equal access means providing equal opportunities for quality education to all students, regardless of their gender, family background, socio-economic or cultural status. Equality in education means removing obstacles and limitations that prevent students from fully developing their abilities and developing their potential, and creating conditions for limiting the discriminatory influence of the social and family environment on their achievements.

What does education lead to?



- Sustainable development begins with education.
- Education is the main way to overcome poverty.
- Education gives parents knowledge about their children's health and hygiene
- Education teaches children how to protect their health
- Education can help develop sustainable agriculture
- Education can help stop world hunger
- Education can help improve nutrition in the future
- Mother's education has saved millions of children's lives around the world
- Education helps women find work
- Education gives women a voice
- Educated women are less likely to marry and have children at an early age
- Quality education is key to economic and sustainable growth

Goal 5- Gender equality

Did you know that:

- 17% of the world's population cannot read or write. About 2/3 of them are women.

18 facts to share on International Women's Day

International Women's Day - March 8, is a real holiday - and the origin of the holiday is very interesting. Unfortunately, International Women's Day does not always get the coverage it deserves, like the struggle for gender equality itself. So, if you, like me, have a lot more questions about the holiday than you'd like to admit, don't feel too bad. Instead, start your celebration of this super feminist holiday by reading all the facts you need to know on International Women's Day.

1. International Women's Day was born on March 8, 1908, when 15,000 women marched through the streets of New York to demand shorter hours, better pay, and the right to vote. The first event of International Women's Day was held only in 1911 and only then in Austria, Denmark, Germany and Switzerland. The UN did not recognize it as a holiday until 1975.
2. It was not until 2011, to commemorate the centenary of the first event of International Women's Day, that US President Barack Obama declared the entire month of March "Women's History Month" in the United States.

3. The 2015 UN report on women showed that despite women working longer than men, given both paid and unpaid work, women still earn on average 24% less than men worldwide . This pay gap is the worst in South Asia, where women earn 33% less than men.
4. 58% of college graduates are women, and this increased percentage of educated women is directly related to global economic growth - and faster economic growth. Among the 34 countries participating in the Organization for Economic Co-operation and Development (OECD), more education for women and girls has accounted for 50% of their economic growth over the past 50 years.
5. This is probably no surprise, but women still spend more time on housework and childcare than men. The UN reports that women spend one to three hours more on housework than men, two to 10 times more time spent on children and the elderly, and one to four hours less per day on economic market activities. In fact, in the European Union, 25% of women say this is the reason they are not active in the workforce, while only three% of men can say the same.
6. Only 22 of the 197 countries on Earth can say that they have women who serve as heads of state.
7. As of 2014, there were 16 million women living with HIV (AIDS), which means that 50% of all adults with HIV are women. It is not uncommon for women living with HIV to experience violence simply because of their HIV status. The UN says at least 14 countries are forcing HIV- positive women to have involuntary abortions and sterilizations.
8. According to a long-term 2010 study conducted in South Africa, intimate partner violence increases the chances of women and girls becoming infected with HIV by 13.9%, and gender inequality increases the risk by 11.9%.
9. Despite the UN Declaration on the Elimination of Violence against Women in 1993, currently 1 in 3 women in the world are victims of physical or sexual violence - and it is usually in the hands of an intimate partner.
10. Despite the fact that women are ahead of men in both secondary and higher education, the unemployment rate disproportionately affects women around the world. As of 2013, the global employment rate relative to the population is only 47.1%. Conversely, for men this percentage is 72.2.

11. Last year, UNICEF reported that more than 500 million women and girls worldwide did not have access to a private, sanitary space where they could have menstrual hygiene. These are half a billion women and girls around the world who do not have the basic need for a clean and safe space to cope with their periods.
12. Only 14% of the top executives in Fortune 500 companies are held by women. Only 24 of these companies have female CEOs.
13. While the percentage of married women before the age of 18 has decreased in North Africa and the Middle East by about 50% in the last 30 years, one in four women living in the world today are bridesmaids.
14. Although we have seen progress on female genital mutilation (FGM) (Nigeria banned the practice in May 2015), the fact remains that today 200 million women and girls have experienced FGM; some during early childhood, but almost all up to 15 years of age.
15. Since 2013, child marriage is more likely to kill girls in the developing world than war, AIDS, tuberculosis or any other cause of death. In fact, complications of pregnancy and childbirth are the number one killer among girls aged 15 to 19 in the developing world.
16. A woman in Africa faces a 1 in 31 chance of dying from complications during pregnancy or childbirth.
17. According to UNICEF, approximately 31 million girls in primary school age and 32 million girls in primary school in 2013 did not attend school. This means that approximately 63 million young girls worldwide are out of school.
18. As of 2013, it is estimated that if child marriage continues at its current pace, then 39,000 young girls will become child brides every day. This means that 142 million girls will eventually marry too young. Lack of education for young girls and child marriage rates are also directly related. According to UNICEF, if every girl in sub-Saharan Africa and North and West Asia received her secondary education, child marriage would fall by as much as 64%.

Goal 6- Clean water and sanitation

Did you know that:

- 1 in 9 people do not have access to drinking water

- In our part of the world, there is a store every step of the way from which we casually buy bottled water. 800 million people worldwide do not have access to drinking water. Due to the polluted water they drink, diseases such as malaria, cholera and others spread.
- Millions of people around the world have to walk for hours to reach a place where they can fill water and carry it to their families.
- 90% of malaria deaths are in Africa. 80% of the dead are children. It is even sadder when you remember that malaria is treatable, but in these parts of the world, people do not have access to health care and medicines. Malaria is spread by mosquito bites or by drinking contaminated water.

Interesting facts about water

If treated, wastewater from households, industry and agriculture could be a valuable resource, not an expensive problem to solve, according to a UN report released on World Water Day. Wastewater treatment and recycling will not only reduce pollution, but can help meet growing demand for clean water and other raw materials, experts say in the report.

Here are some facts about wastewater on the occasion of today's World Water Day:

- Over 80 percent of the world's wastewater is not treated and pollutes rivers and lakes.
- On average, low-income countries process about 8 percent of industrial and domestic wastewater. High-income countries purify 70 percent.
- Pollution from human and animal waste affects almost every third river in Latin America, Asia and Africa, putting millions at risk.
- In 2012, the deaths of 842,000 people in low- and middle-income countries were linked to contaminated water and inadequate sanitation.
- In sub-Saharan Africa, more than 60 percent of the urban population lives in ghettos.
- The Nigerian city of Lagos generates 1.5 million cubic meters of wastewater every day, most of which is discharged untreated into the lagoon of Lagos.
- The discharge of untreated water into the seas gives to some extent explains the rapid growth of oxygen-free dead zones. So far, an area about the size of Britain has been affected, affecting livelihoods, fisheries and food chains.
- At least 50 countries use wastewater for agricultural irrigation, which increases the risk of pathogens infecting crops.

- Two thirds of the world's population lives in areas where there is a shortage of water for at least one month a year.
- By 2030, global water demand is expected to grow by 50 percent.
- The International Space Station has been using the same water for 17 years.
- In Israel, purified water is over 40 percent of the water used for irrigation.
- It is estimated that more than one-fifth of the world's phosphorus needs can be met by recycling human urine and faeces.

Goal 7- Renewable energy

Interesting facts about electricity.

Electricity is now an integral part of society. At that time, most people in developed countries were concerned about how to save money on electricity bills, many developing countries were working on how to produce enough energy for the country's citizens. Here are some interesting facts:

1. 20% of the comfort of the hosts

American hosts consume 20% of electricity for air cooling. The amount of energy used in ordinary US households for air conditioning is about 20% of the country's electricity consumption.

2. Prisoners benefit

Bicycle ergometers in prisons generate electricity for nearby villages. In Brazil, there are prisons where prisoners pedal on ergometers, which produce energy for the surrounding villages. In this way, they ensure a reduction in the term of imprisonment.

3. Money for garbage, garbage disposal, heat in electricity

Recycling is developed in Sweden, which is why waste is imported from Norway to the country, which is treated in their wastewater treatment plants.

4. Itaipu HPP

A quarter of Brazil's electricity is generated here. Almost a quarter of the electricity produced in Brazil is a power plant.

5. In Switzerland, everything is clean

More than half of all energy produced by hydroelectric power plants in Switzerland and the rest by nuclear power plants. As a result, the country's energy industry produces almost no CO₂ emissions.

6. *A power plant pumps and stores energy*

Pumping and storage plants allow to preserve "green" energy for a long period of time.

7. *Clean atomic energy - wind and water*

In the production of nuclear energy, the level of CO₂ is negligible. In the process of nuclear energy production CO₂ is less than during the development of solar and geothermal energy.

8. *Geothermal Iceland*

Geothermal station in Iceland. Iceland produces all its energy from renewable sources. HPPs provide about two thirds of the energy needs of, and the rest is produced by geothermal power plants.

9. *Soviet warheads*

About half of nuclear energy is produced by old Soviet warheads in the United States.

10. *Water energy of Norway*

99% of Norway's energy comes from hydroelectric power plants. This is more than in any other country on Earth.

11. *The wind, the wind you are mighty.*

While wind power generation and wind farms have been around for a long time, not many people are aware of this technology or know where it comes from. Wind energy has been around for much longer than most people know. The following are some interesting facts about wind power generation that most people are not aware of.

12. *Reactors with liquid thorium fluoride*

7,000 tons of thorium - the annual consumption of electricity by the population of the Earth. Reactors with liquid fluoride thorium could meet the demand for annual energy worldwide, using a total of about 7,000 tons of thorium.

13. *Nuclear France*

France produces electricity in abundance. France produces as much electricity from nuclear energy as it exports.

14. *State current*

In 1963, Quebec nationalized electricity. This has led to the fact that 96% of Quebec's energy is now generated by hydroelectric sources. Also, in the Canadian province some of the cheapest prices on the continent.

15. *Termites - bioreactor*

The US Department of Energy is considering using termites as a source of renewable energy. They produce almost 2 liters of hydrogen simply by eating a piece of paper. We can say that these insects - one of the most effective bioreactors on Earth!

Goal 8- Secure operation and economic growth

Did you know that: Germany also ranks at the top of the list for the longest life expectancy for both sexes. According to recent studies, men here reach an average age of 76 years, and women in most cases live to 90. These statistics should tell you about the high standard of living in the country, which has long been talked about and which is clearly not another myth.

The COVID-19 pandemic has forced many companies to switch entirely to teleworking. We found ourselves where there is no going back. Almost immediately, all staff worked from home, connecting to corporate systems via VPN or cloud and communicating via video conferencing platforms such as Microsoft Teams, Zoom or Skype.

Traditional barriers to teleworking - from lack of software to worries about what the kitchen table will look like on screen - have been largely removed. Nobody cares where and how we work, this is a turning point.

It is unlikely that all this will disappear after the crisis. Looking ahead, we can expect that much of what is done through personal contact will be transferred to the online environment. People are already used to working this way. For many, this was a discovery that it was possible.

Working from home will keep the news

There are some valid objections to telework. Someone claims that we are currently looking at her through pink glasses. This is new, this is fresh, this happens in emergencies. They are all at home and united by a clearly defined goal of doing business. Won't all this lose its significance after the pandemic?

First, we do not know exactly when it will be possible to talk about a "post -COVID-19" situation. It can occur after a considerable time. Second, work from home is likely to continue. Of course, most people will return to their offices when it is safe. But we can hardly doubt that almost all of us will start working more remotely. Maybe we will stop talking about the special "remote" work, which will become one of the usual ways of working.

However, the virtual world cannot completely replace the real world. Face-to-face meetings will even become more important as they will be less frequent. After all, our city centers and business districts will not go anywhere. Important business decisions and agreements will continue to require personal contact.

Overall, however, there is no doubt that the current situation will have a lasting effect on our work in the future. This would not have happened if technology had failed to solve today's problems. But they performed surprisingly well.

Technology can handle tasks

As a result, technology is only gaining more business value. Investment in hardware, software and automation can be expected to increase. Companies will have to invest even more in laptops, mobile devices and software phones. Demand for external IT services will increase

when companies realize their advantages over their own systems. The demand for cloud services will jump to provide the necessary bandwidth and processing power.

Companies need to consider every aspect of their business. Technology plays a crucial role in this. Technical firms need to meet this challenge and consider how they can help organizations adapt. Innovation must be accelerated and certainly not slowed down.

The technology sector plays a key role in the transition to a new future of work.

Goal 9 - Innovation and infrastructure

Innovation is a key factor for the economic development of modern countries. For their development and implementation significant resources are needed - labor, financial, organizational, but the solution of the respective tasks is necessary to ensure the efficiency of the country's economy. What are innovations? What are the conditions for their successful implementation?

THE ESSENCE OF INNOVATION

Innovations are usually understood as some innovations in the field of technological development, application of management decisions, organization of business processes, which is based on the use of advanced achievements in various fields of science. Therefore, examples of innovation can be observed in a wide variety of business sectors. An important criterion for recognizing a solution as innovative is a fundamental improvement in a technological or management process during its implementation.

How will we live on Earth in the future

Let's move forward and see what's next in the big industries. In the future there will be big changes in our way of life, work and travel. But thanks to data, automation and software, the way we interact with the planet will be smarter and more efficient. Here's what will change.

We will rely more on renewable energy and batteries.

What will change: Energy consumption will shift to wind and solar energy as these sources become more cost-effective.

What this means: The energy storage industry - industrial batteries - will grow rapidly to store energy generated by these renewable sources. For example, wind turbines can only collect energy when it is windy, just as solar panels rely on sunlight to generate energy. Batteries must store this energy so that customers can still turn on the lights and not be obstructed by the weather. "Energy storage makes renewables reliable and available on demand," said Rupa Short, Honeywell's director of business development, who focuses on market trends and technological innovation to meet new energy needs.

Homes and offices will become power plants

What will change: Buildings will generate their own energy using renewable sources. This local electricity generation will provide electricity to neighboring buildings and contribute to the electricity grid.

What this means: Buildings will have zero net energy consumption, producing as much energy as they consume. They will have a variety of local opportunities for energy production and storage. They will have, for example, wind turbines on the roofs, photovoltaic facades, biogenerators, generators with traditional fuels and storage options in the home, such as batteries. The software will optimize energy sources based on how consumers want to optimize energy consumption at different times of the day. "Smart buildings will be autonomous and self-optimizing, enabling them to be independent, but still making a valuable contribution to their neighboring smart urban infrastructure," said Deb Leroyde, director of supply management at Honeywell, who has more than 20 years of experience with connected buildings.

We will travel by electric air taxis

What will change: With more than 150 companies working frantically on urban air mobility vehicles (UAMs), many new concepts for electrically powered air taxis will emerge in the coming years. Eventually they will be able to fly unmanned.

What this means: Urban air mobility describes a new system for air travel by electric aircraft with vertical take-offs to fly over metropolitan areas. Venture capital is pouring into the sector, and some of the leading companies are already working on their third or fourth iterations of vehicle prototypes. Most companies plan to eventually pilot these aircraft autonomously, eliminating the weight and cost of piloting. The rest of the aviation industry is re-equipping for this new era. A study commissioned by Honeywell shows that a third of companies even in avionics develop products for UAM, with more than half of these products already in flight testing.

Buildings will use energy only when needed

What will change: The buildings will meet the emotional and rational needs of the people who live in them. This means that energy will only be consumed when they are busy, thus optimizing efficiency.

What this means: Multiple sensors will use machine learning and artificial intelligence to provide intelligent and intuitive spaces. The buildings will learn from their own history of performance and maintenance so that they can be continuously optimized based on experience. All systems will be connected to create a "lake" of data to facilitate lifelong learning - lighting, elevators, fire protection and security systems. "A human-centered approach to the design, experience and management of a building will make buildings futuristic and anticipate human needs," said Manish Sharma, Chief Technology Officer of our construction technology business.

Goal 10 - Reduce inequalities

Three Yale scientists have an idea that is thought-provoking: people are not worried about economic inequality, but about injustice.

"We could not find evidence that people are concerned about economic inequality per se. On the contrary, they are concerned about other issues related to economic inequality, such as poverty, the breakdown of democratic values and, most interestingly, injustice." - write Christina Starmans, Mark Sheskin and Paul Bloom in their new study

published in *Nature Human Behavior*. Dr. Stermans is a postdoctoral fellow in psychology, Dr. Sheskin is a postdoctoral fellow in cognitive science, and Dr. Bloom is a professor of psychology, all at Yale University.

But what is inequality and what role does it play for democracy - undermining it or stimulating it? Does inequality drive people to despair? Or is inequality a necessary evil that we must tolerate to certain levels in order to have something to strive for?

So what is inequality?

Researchers insist that we need to develop a common understanding of what inequality is. There are three different but inequality-related ideas:

1. People should have equal opportunities in society - regardless of their origin, race, gender, etc.
2. Remuneration, goods and benefits must be distributed fairly according to merit.
3. With equal achievements, equal consequences, regardless of the circumstances. Or as the experts say: "inequality of outcome" - when you receive for the same job 1000 BGN, and your colleague - 2000 BGN.

These notions are three different dimensions of inequality that we face in life and that ultimately shape in people what they feel is economic inequality. Understanding the different dimensions of this phenomenon is extremely important for drawing up a healing plan for our society, and conclusions, however, are based on relevant research. The inequality that worries us

Can you guess what Americans and Europeans think is the biggest threat the world now faces?

A recent study by the Pew Research Center found that the most common response is inequality. Not climate change, poverty, disease, war or the flow of migrants.

Although few are likely to appreciate the scale of inequality. Here is an example: Take the wealth of the eight richest people on the planet and collect it. Now do the same for the poorest 3.5 billion. The two amounts will be the same - the same, 780 billion levs or nearly 500 billion dollars. Only eight people own as much wealth as half the world's population. And this inequality is deepening. In 1960, a CEO in the United States typically earned an average of 20 times more than a worker. Today this is more than 354 times.

Pope Francis called economic inequality "the root of social evil." The gap between rich and poor in the world seems never to have been so deep, and it worries and outrages people. And the idea that inequality needs to be reduced is almost taken for granted.

But despite this outrage, people do not see inequality as fundamentally wrong, but as the result of injustice. There is no consensus on what a perfectly fair world would look like, but for most of us, the goods in it will not be evenly distributed.

The three Yale researchers suggest that these two phenomena (outrage at the gap between rich and poor and the notion that inequality must exist) be reconciled. They find no evidence that people are concerned about economic inequality itself, but in fact economic inequality is often confused with injustice.

Natural intolerance of inequality

If you look for evidence that people are naturally intolerant of inequality, you will find numerous laboratory tests that confirm this. Studies have found "universal desire for equal pay", "egalitarian motives in people", "egalitarianism in children" and "equality is achieved by reciprocity".

When laboratory participants are asked to share resources between unrelated individuals, they tend to share them equally. If a previous situation has led to inequality, people will divide future resources unevenly to correct or minimize inequality among other people. This bias is so strong that participants sometimes prefer equal results where everyone gets less than unequal results where everyone gets more, says The Guardian.

Studies of children between the ages of three and eight find a similar bias toward equality. Three-year-olds share resources equally with third parties, and six-year-olds show an even stronger desire for an even distribution, insisting that additional resources be discarded instead of being unevenly distributed between two absent third parties.

The problem is poverty and injustice

Harry Frankfurt is an honorary professor of philosophy at Princeton University. In his book *On Inequality*, he argues that our moral duty must be to eradicate poverty, not to achieve equality. It is necessary to ensure that everyone has the means to live a normal life.

"I am convinced that people will react with far greater sympathy to the suffering of those who live in poverty than to those who are simply unjustly (from their point of view) not rich enough," Frankfurt said. - "People are likely to support changes in legislation aimed at alleviating the situation of the poor."

Goal 11- Sustainable cities and communities

Africa and Asia are home to nearly 90 percent of the world's rural population.

It is estimated that 70% of people will soon live in cities.

The challenge for large urban centers is not to provide shelter for more people, but to make it a sustainable model. Based on the social, environmental and economic aspects of cities, the Sustainable Cities Index (SCI) is compiled annually.

1. *London, Great Britain* - balance between social and economic development

The British capital stands out with its high rating for the well-being of citizens (health, education, low crime rate), working life (working hours) and urban life (transport accessibility and connectivity). London is one of the most successful cities in terms of air quality and waste management.

2. *Stockholm, Sweden* - the greenest city in Sweden

The capital of Sweden tops the environmental management rankings thanks to its investments in sustainable infrastructure, low emissions and good air quality. Both Stockholm and Frankfurt have successfully combined economic development with demanding environmental standards, making the quality of life of their communities among the highest in the world.

3. *Edinburgh, UK* - puts citizens first

While Stockholm relies on environmental strategies, Edinburgh is more committed to the social development of its citizens, which is why it ranks first in social development.

Edinburgh is a leader in the sub-index "developed population", which is determined by the health of the city, accessibility to public transport, financial opportunities for citizens to enjoy the pleasures of the city and more.

4. *Singapore* - Economy and capital for employment

The island city-state is in the top five thanks to its undisputed leadership in one of the components of a sustainable city, namely the economic one. Designed as one of the easiest cities to set up and run your own business, Singapore is full of innovators and entrepreneurs. It also has an extremely high employment rate, which brings high levels of production capacity.

5. *Vienna, Austria* - A smart and ecological metropolis

Mercer, a consulting firm, ranked Vienna as the best city to live in its quality of life survey, and the United Nations named it the most prosperous city center. In addition to its cultural activities and economy based on science and technology, the Vienna City Council has launched a program to transform the city into a smart city by 2050 in order to reduce the carbon footprint from 3.1 tons to 1 ton per person.

Goal 12- Responsible consumption

If you throw a garbage in the general garbage, it will reach a landfill and begin to rot for years. As it decomposes, it will emit landfill gas, toxic limestone and methane. Just for example - clothes made of materials that are not biodegradable can stay in the landfill for more than 200 years, old shoes decompose in almost 10 years, and their rubber soles - between 50 and 80 years.

Synthetic fibers do not decompose, and wool fibers produce methane, which is a major culprit for global warming. To this picture we can add dyes and chemicals embedded in textiles, which contaminate the soil with highly toxic or dangerous chemical compounds. At the same time, there is a real possibility that naturally, following the path of the food chain, they can enter the body of humans and animals.

In Bulgaria, almost 100,000 tons of waste from old clothes and shoes are "produced" annually. At the same time, the latest statistics for EU countries show that between 30 and 50% of new clothes purchased are collected separately, the rest goes to landfill. The percentage of separately collected clothes and shoes in Bulgaria is close to zero. A 2015 Greenpeace-Germany study found that about 40% of our clothing is rarely or never worn. A few more facts - for the production of a kilogram of cotton requires between 10,000 and 20,000 liters of water; $\frac{1}{4}$ of global pesticide consumption falls on cotton producers; about 20% of industrial water pollution is related to dyeing and textile processing.

Were we able to convince you not to throw away unnecessary clothes in the general garbage? They can live a new life - be worn by another person or be processed into a new raw material.

Textile products that cannot be reused get a new chance as textile threads or are used for the production of other products for the construction, furniture and clothing industry, as well as for the home - various types of waterproofing, shoe insoles, cotton wool for the clothing industry, insulating materials in the automotive industry and many others.

Special points are our alternative to all this shocking data! Here you can leave the clothes that you will not wear, that you do not like, do not fit you, you consider worn out. Here is the place of the lonely sock and boots from last winter. And the children's clothes that you can't feel sorry for!

We are flooded with information from all sides about how important it is to recycle and how we save the world in this way. Surprisingly for militant environmentalists, however, it turns out that recycling not only brings benefits, but also has significant disadvantages.

Benefits:

Environmental protection

By recycling paper, we save millions of trees. If we give up plastic bags or hand them over for recycling, we will save the lives of thousands of marine life and birds.

Reduces energy consumption

The largest amount of energy is used in the processing of raw materials during production. Recycled materials are crucial in the industry because they make the production process far more cost-effective than conventional ones.

Reduces global warming

Recycling reduces the adverse effects of global warming. Bulky waste such as paper, plastic, car tires is often incinerated and thus harmful emissions and greenhouse gases are released into the atmosphere. Recycling ensures that the combustion process is minimized and all waste is regenerated as useful products, with no or minimal impact on the environment.

Sustainable use of resources

Recycling encourages the rational use of resources. The waste recycling process preserves valuable resources for future generations without compromising current consumption.

Disadvantages:

Recycling is not always cost effective

In order for the materials to be used more than once, it is necessary to build factories, which involves large investments. The very creation of waste treatment plants is associated with air pollution and emissions.

Recycled products are often of poor quality

Products made from recycled materials are not always sustainable over time. Often, items created from recycled waste are more fragile than new ones and therefore cheaper than them.

Landfills for recycling are not hygienic

Waste collection and recycling sites are not always safe. There are various chemicals on such sites that can be very dangerous if inadvertent. Waste storage is associated with large amounts

of dirt and decomposing materials, which can be dangerous to the health of employees and those living near landfills.

Not widespread enough

Widespread recycling is important for achieving long-term goals for nature and resource conservation. Unfortunately, in many parts of the world, garbage is dumped in unregulated landfills and landfills, which makes recycling largely meaningless.

Facts about the waste we dispose of:

For the paper:

1. Air pollution is reduced by 70 percent if new paper is produced from recycled materials.
2. If the paper used by the New York Times a day is recycled, 75,000 trees will be saved.
3. Half a million trees must be cut down for the production of all the Sunday newspapers in the world.
4. If the paper from all the newspapers in the world is recycled, 250 million trees will be saved in a year.
5. For the paper used by the average American, 7 trees are cut down annually.

For aluminum:

1. It takes more than 500 years to break down an aluminum jug of soft drink or beer.
2. More than 80 billion aluminum cans are used each year for soft drinks and beer.
3. Recycling a jug saves energy, which is equivalent to a TV turned on for 3 hours.
4. Aluminum can be recycled an unlimited number of times.

For glass and plastic:

1. It takes more than 4,000 years to decompose 1 glass bottle.
2. Glass is a 100% recyclable material.
3. Recycling 1 glass bottle saves energy to power a 100 W bulb for 4 hours.

4. Plastic bags that are dumped into the oceans and seas kill more than 1 million marine life each year.
5. Recycling 1 ton of plastic saves up to 2,000 liters of gasoline.
6. Over 60% of the garbage that is thrown in the bin can be recycled.

Goal 13 - Combat climate change

Scientists are not unanimous on the causes of global warming

There is a widespread perception that there is a lack of consensus in the scientific community on climate change. In fact, this is not the case at all. More than 90% of experts researching this topic agree that human activity is the main cause of global warming. "We're more confident that people are influencing the climate than that cigarettes are causing cancer," said NASA climatologist Kate Marvel. However, a recent poll in the United States found that only 1 in 5 people in the country is aware of this fact.

Climate change is a natural thing

There is hardly a self-respecting scientist who would deny that climate change can be a natural process and not uncommon. What makes the current situation unique is the speed of change. "The rate at which carbon dioxide is being released into the atmosphere today is unprecedented for the last 66 million years," said a study published in 2016. The facts are more than eloquent

- no natural phenomenon can explain warming , which began with the industrial revolution. At the same time, scientists note that the main reason for this worrying trend is the greenhouse gases that capture the heat that is released during the combustion of fossil fuels. "Natural factors, such as volcanic eruptions and changes in solar activity, could have much milder consequences, especially if we look at what's been happening for the past 50 years," said climatologist Zeke Hausfader.

The sun is to blame

Solar activity can undoubtedly cause long-term climate change - such as ice ages. However, it cannot be an explanation for the warming we are witnessing at the moment. Over the last 800,000 years, our planet has gone through several cycles of ice ages and warming. Such a cycle lasts an average of about 100,000 years, and the reason for it is the Earth's orbit and the inclination of the Earth's axis (the changing distance between the Earth and the Sun leads to peaks and troughs in the amount of solar energy we receive).

Nowadays, we are seeing an extremely rapid rise in temperatures, which began about 150 years ago. This process has become particularly intense in the last few decades. At the same time, the solar cycle is about to reach its lowest levels since 1750, according to NASA. This means that in practice the Earth receives a decreasing amount of solar energy (it should be noted here that the difference is insignificant - only about 0.1% less solar energy reaches our planet than in 1750).

The amount of carbon dioxide in the atmosphere is too small and cannot cause climate change.

Part of this statement is, in fact, true. Carbon dioxide represents only 0.1% of the atmosphere. But this seemingly insignificant amount can have a huge impact. Carbon dioxide has the ability to retain heat and is key to the Earth's climate. If for some reason it disappears, the temperature of our planet will almost immediately fall below 0 degrees Celsius. It is no coincidence that the current increase in its quantity worries scientists. They note that for thousands of years, the levels of carbon dioxide in the atmosphere have been around 280 parts per million. In the last 150 years, however, this amount has increased by nearly 50% and is now 415 parts per million.

Scientists often draw attention to the fact that the growth of cities leads to a warming of the local atmosphere. Among the reasons for this are the felling of trees, the concentration of dark surfaces and buildings, as well as the increased emission of greenhouse gases. This leads some people to doubt the reliability of the data obtained in the areas of large cities. In fact, research is being done in various parts of the world - including those that are very far from populated areas. The results of the measurements there are similar to those in the cities, which proves that the rise in temperatures is a global, not a regional phenomenon.

British climatologists from the Cambridge Center for Climate Recovery have proposed an advanced solution against climate change - the restoration of melting Arctic ice sheets.

Climate change is already so severe that reducing greenhouse gas emissions is not enough to improve the situation, scientists say, quoted by Metro. Therefore, there is a need for additional and more radical solutions, they added.

"We are proposing an initiative we call sea cloud enlightenment. We will build special sprayers that will disperse seawater droplets in the air under high pressure. This will stimulate the formation of vapors with salt crystals, which will rise in the sky due to air

convection. Salt will encourage the formation of new clouds that will protect Arctic ice from intense solar radiation, "explains David King, head of the research group.

Goal 14- Life under water

Life in the water faces serious threats

Life in freshwater bodies and regional seas in Europe is not in good shape. The poor state of ecosystems has a direct impact on many animals and plants inhabiting the aquatic environment and affects other species, as well as humans, which depend on the availability of clean water. The state of Europe's seas is very difficult, mainly due to overfishing and climate change, while freshwater bodies suffer from overloads of nutrients and habitat changes. Chemical pollution has a negative impact on both freshwater and marine ecosystems.

Did you know that: One third of the Dead Sea has disappeared from 1960 until today. The water recedes irreversibly, and the coast turns into a lunar landscape filled with craters, BNT reports. One reason is that for years, Israelis, Palestinians and Jordanians have diverted river water from one of the saltiest bodies of water on Earth.

In the 1960s, spa tourism flourished on the Israeli shores of the Dead Sea. At that time, the resort of Ain Gedi was on the waterfront. Today it is a ghostly place, the water has receded 3 kilometers, and the beach looks like a desert hit by meteor showers.

Every year, the Dead Sea shrinks by one meter, leaving behind craters up to 10 meters. Without water, the earth sinks.

Endangered species:

Hawk-headed sea turtle - It gets its name from a feature of the body - its elongated, pointed head, ending in a beak. Another distinctive feature is that the edges of its shell are jagged. The species is found in the oceans and mainly in coral reefs. Sea turtles are living representatives of a group of reptiles that have existed on Earth and in the seas for the past 100 million years.

Smooth-backed Guinea Pig - Intensified gillnet fishing in its habitat has led to the reduction or complete extinction of the species. It is known for its level of intelligence comparable to that of gorillas. To survive, the species needs a large amount of food. One of the reasons for the extinction of another species of river dolphin - the Chinese river dolphin

Baiji, is precisely the inability to find food. Other factors are water pollution and ship traffic. Today there are between 1000 - 1800 specimens left.

California Guinea Pig - This is the rarest marine mammal in the world that is on the verge of extinction. It was not discovered until 1958 and half a century later we have almost lost it. The animal is often caught in illegal fishing nets in sheltered waters of the Gulf of Mexico in California. Only 18 specimens of the species remain. It is believed that if no steps are taken to protect the species, it will become extinct by 2021.

The crisis with the extinction of marine species is not as widely perceived as the crises in tropical forests and other terrestrial biomes. We do not know how many species are in the ocean, as most marine species have not been found. That is why we do not know how many have disappeared or how much they are in danger of disappearing. We know that overfishing is a major threat worldwide. Current estimates cover only 20% of the world's fish stocks, so the true state of most of the world's fish populations is unclear. However, recent findings show that these unobserved stocks are declining and almost three quarters of the world's stocks sold in the commercial sector are overloaded and at risk.

Goal 15- Life on Earth

- Nine percent of the world's forests are located in Canada.
- The red cell is the most common bird on Earth.
- There are only 4 countries in the world where there are no forests, according to the definition of the World Bank. And these are San Marino, Qatar, Greenland and Oman.

SPECIES AROUND THE WORLD ARE DECREASING

The world is facing mass extinction of species. All species of mammals, birds, reptiles, amphibians, arthropods (insects and arachnids), fish, crustaceans, corals and other animals and plants have declined in many cases in much of their range. Human civilization has a negative impact on most living beings with their daily activities, waste and unsustainable use of natural resources, pollution and more.

Fact # 1 We are at the beginning of the largest period of species extinction in the last 60 million years. Usually between 1 and 5 species disappear each year. However, scientists estimate that we are now losing species 1,000 to 10,000 times faster than normal. Many species will become extinct before we learn about them or the benefits they bring to our planet.

Fact # 2 A new study shows that insects in Germany have dropped by more than 75% in the last 28 years. This is very worrying: 80% of wild plants rely on bees and other insects for pollination, and 60% of bird species rely on insects for food. Man is completely dependent on plants for his food - directly or as food for the animals he feeds on.

Fact # 3 Habitat destruction, exploitation and climate change are the cause of the loss of half of the world's wildlife population.

Fact # 4 Primates, our closest related animals, are under extreme threat. Nearly 60% of the world's 504 primate species are threatened with extinction, and 75% of primate species are in severe population decline.

Fact # 5 Worldwide, more than 650,000 marine mammals are caught or seriously injured by fishing gear each year.

Fact # 6 Over the last 20 years, about 75% of all toothed whale species, such as dolphins, guinea pigs, killer whales and 65% of plankton-eating whales, humpback whales, blue whales, sperm whales and 65% of seal species have been affected. due to overfishing in fishing operations worldwide.

Fact # 7 40% of the world's bird species are in decline, and one in eight species is threatened with global extinction.

Fact # 8 Our big cats, including tigers, leopards and cheetahs, are in critical decline and many will be extinct in the next decade. The cats of the world are exploited for different parts of their body and skin. China remains the world's largest market for these critically endangered species, along with the black and white rhino and other species.

Fact # 9 Lizard populations are particularly vulnerable to climate change. A recent study predicts that if the current decline in lizard populations continues, 40% of all lizard species will disappear by 2080.

Fact # 10 The American bison once numbered millions of individuals and traveled from Alaska to Mexico. They now occupy less than one percent of their original habitat. Their existing habitats are so small and strictly controlled that the surviving bison today are much smaller than the cattle.

WHAT HAPPENS TO OUR SPECIES AND THEIR HABITATS?

There is no doubt that a large number of animals and plants have disappeared in recent centuries due to human activity, especially after the Industrial Revolution. The number of individuals in plants and animals has also declined - in many cases severely - affecting

genetic variation, biodiversity and ecosystems. All over the world, areas where people are using natural resources or developing are having the same result: a deteriorating natural environment. As a result of human actions, ecosystems face threats such as impaired reproduction and consumption; in today's interconnected world, it doesn't take much to understand these unstable forces. This is a trend that cannot continue. If ecosystems are too depleted and depleted, their ability to survive, sustain biosphere processes and our species, and meet human needs is drastically compromised. Many of us have seen images of wild prairies covered with huge flocks of bison that no longer exist, thousands of flocks of birds gathered in swamps and lagoons that have drastically declined, or beautiful and imposing animals such as elephants, giraffes and whales that in many cases are in danger of disappearing.

Other people have retained memories of less imposing animals that still carry deep emotions, such as the sound of thousands of frogs croaking at midnight, birds visiting a yard feeder year after year, or millions of bats flying to their resting place in the evening. . Others may remember that when they drive through the countryside, the windshield of their car is covered with hundreds of dead insects - a signal of abundance, which unfortunately is now almost non-existent. In recent decades, we have learned countless stories about new species of plants or animals found in tropical forests around the world, which gives us a sense of wonder and opportunity. At the same time, millions of hectares of natural forests are destroyed every year.

Goal 16 - Peace and justice

Did you know that:

Adolf Hitler was nominated for the Nobel Peace Prize

Don't worry, the Swedish politician who sent the nomination letter in 1939 - ironically, of course, withdrew his nomination. In an even more ironic twist, Hitler forbade Germans to accept the award for four years before his own name was offered.

September 21 - International Day of Peace and Roadless Day

The International Day of Peace was confirmed by a UN resolution in 1981 with a message of non-violence and a ceasefire in all parts of the world.

The young people from the International Center have prepared a rich program, which includes the following topics: "What is peace for children" - drawings on asphalt;

expressing messages of peace from young people and citizens on the occasion of the International Day of Peace on white paper pigeons; presentation of interesting facts related to wars, military actions and their consequences; games for recognizing Nobel Peace Prize winners; video interviews with messages from citizens; promotion of the Center's activities.

On September 21, the First European Day of the Dead is held on the territory of Europe. The initiative is supported by the European Commissioner for Transport Violeta Bulz, the European Transport Safety Council and the traffic police services of the 30 TISPOL member states, national governments, municipal and local authorities, non-governmental organizations.

This is the reason for the special message of Aidan Reed, President of TISPOL:

At the beginning of the decade, we achieved a significant reduction in the number of people killed and seriously injured in road accidents, but in the last two years this trend has changed. It is particularly important to refocus on the efforts needed to achieve the Europe 2020 goals of at least halving road deaths compared to 2010. We are confident in them, we are convinced that the efforts of governments can lead to a drastic reduction in deaths and injuries. We believe that with the individual contribution of each of us we will achieve the expected great result.

No casualties on the road should be our goal every day, not just September 21st. I am convinced that Operation EDWARD can be a great success, whether or not we achieve zero mortality on this day, as the initiative is an affordable way to raise awareness on the subject.

Every day about 70 people die, another 370 are injured on the roads of Europe.

On September 21, we will monitor every hour whether we manage to fulfill our commitment. If in these 24 hours we manage to achieve zero casualties on the road, we will be able to continue. Drivers and pedestrians, think about how you drive, how you move on the road. Think about how to reduce the risks - use a seat belt, drive at a speed appropriate to the road conditions, do not use alcohol or narcotics, do not talk on the phone while behind the wheel.

Think of your loved ones and friends! Reducing road casualties remains a priority.

If each of us changes our behavior at least a little for more road safety, together we will save lives and change destinies.

Everyone's support is crucial.

At the end of the lesson, the students realized that young people must take responsibility for achieving the set 17 global goals for the protection of our planet.

The biggest lesson in the world is a joint educational project created to support the promotion of the Global Sustainable Development Goals adopted by the United Nations. The project is proof of the importance of Global Goal 17 "Partnership for Goals" and would not have been possible without the help of all partners working with us and with each other.

Tips for the facilitator

- 1) The teacher asks the students the question - can you cope on your own without partners in the future?
- 2) The teacher of the discussion can help anyone to achieve any goal.

Debriefing

Students write an essay for one of the goals..

Follow-up/Inspiration for the future

Information in social media, school's webpage.

References/Further reading

<https://profit.bg/klasatsii/27-te-nay-bedni-strani-v-sveta/>

<https://profit.bg/svezho/10-te-strani-s-nay-golyama-prodalzhitelnost-na-zhivota/>

<https://dariknews.bg/novini/sviat/trevozhno-2-mlrd.-dushi-po-sveta-niamat-dostyp-do-bezopasna-pitejna-voda-2171966>

<https://elpro.bg/>

Annex

Activity 4

Learning Tool Code	Title
SDG17-SDGfP	We and the generations after us
Objectives	
<p>An international exchange between schools, teachers, students is created, because the joint work between the partners gives depth and comprehensiveness to the common projects, enriches them with more ideas and methods.</p> <ul style="list-style-type: none"> • Through the partnership to achieve the goals, we strive to adapt the UN goals to the local conditions of each participating country. 	
Activity details	
<ul style="list-style-type: none"> ❖ Materials - The students prepared materials for each purpose. ❖ Duration - 60 minutes ❖ Number of groups - several groups of students <ul style="list-style-type: none"> - (5 grade, ages 11-12) 	
Instructions	
<p>Introduction: Life as we know it on Earth would be impossible in the future if each of us did not take steps and gestures towards the environment, organisms and the like. The goals of the UN and the partnerships that take place at every level are the way to save the planet all together. Small cases and steps are more successful than big plans, which in most cases are unfeasible. Small things drive big changes.</p> <p>The idea of the lesson is to present each goal in a few sentences. Students give their suggestions on how they see themselves in achieving each goal.</p> <p><i>Goal 1 Poverty Eradication:</i> Life we dynamically saturated feel comfortable every day we are filled with strength and energy. We are having fun. But is this the case with all people - there are no adults and children without a home, without drinking water, food and basic hygienic living conditions.</p> <p>(2 minutes)</p> <p>I have decided that I will study, I will be educated, I will develop and one day I will become a volunteer, I will join initiatives and organizations helping people to eradicate poverty on Earth. I want to become a doctor and join Doctors Without Borders</p> <p>(2 minutes)</p>	

Goal 2 End hunger: Man lives and enjoys life communicates enjoys challenges cheerful eats delicious drinks. However, there are people who are hungry and have not eaten for days. They have no choice but to eat what they have.

(2 minutes)

I choose to buy basic necessities with my personal savings for Christmas and Easter for a family in need in the neighborhood where I live, I will find like-minded people and my friends to join. I want one day to make a food hotel and everyone to leave products in it, and people who do not have the opportunity to buy products to take advantage of them. Food is not an extra, but a condition of life.

(2 minutes)

Goal 3 Good health: Everyone has their problems and worries, but the real misfortunes are when a person is sick. Health is a choice.

(1 minute)

Good health for me is healthy and environmentally friendly sports food and care for nature and daily actions for its protection. I choose to read the labels of all the foods I buy because not all foods defined as "healthy" are.

(2 minutes)

Goal 4 Quality Education: In a democratic society, people have the right to quality education, information, and decision-making. Only culture and education can push humanity forward.

(1 minute)

I choose to learn languages because it will allow me to get to know many cultures, to communicate with my peers, to exchange ideas, to meet people I have never met and to learn things I don't know. Expectation is a wonderful thing.

(2 minutes)

Goal 5 Gender equality: It doesn't matter if you are male or female, the important thing is to study, work, develop and follow your dreams. Difference and diversity are most valuable in life. The challenge today is to embrace gender equality - to have no subordinates or no dominants.

(2 minutes)

It is important to me not whether my friends are boys or girls, but above all to be good tolerant and compassionate.

(1 minute)

Goal 6 Clean water and sanitation: You all use water and therefore each of you is responsible. Today, the world is facing a global water crisis. More than 2.4 billion live in poor sanitation, without sewerage and wastewater treatment.

- Over 1 billion people do not have access to clean drinking water.
- By 2025, 2/3 of the world's population is expected to suffer from a lack of enough water.

(3 minutes)

I choose to brush my teeth with a glass of water, turn on the faucet periodically just to rinse my brush and mouth. I choose to reduce my drinking water consumption.

(1 minute)

Goal 7 Renewable energy: Life is unthinkable without energy, but its production has a negative impact on the environment. We choose to use renewable energy sources wind, water, sun, geothermal energy, biomass.

(2 minutes)

Today, I choose to save energy by using energy-saving light bulbs, as they are the most economical and environmentally friendly way to light a home.

(1 minute)

Goal 8 Safe work and economic growth: They are a prerequisite for a normal life, but before that it requires preparation, experience, desire for improvement and lifelong learning. When we have economic growth, we also have financial security, and that gives us the freedom to do what we love.

(2 minutes)

To be successful in the future, I must make an effort and perseverance now. (1 minute)

Goal 9 Innovation and infrastructure: One thing in life is certain that it is changing, we must change too. "The new is the best of all things" - Ovid

(1 minute)

The innovations for me now are in the interactive methods, in the novelties that our teachers offer us to make us interesting and enjoyable.

(1 minute)

Goal 10: Reduce inequalities: It takes effort, but it's worth it. Inequalities exist between the sexes, between the inhabitants of rich and poor countries, between those who have the opportunity for quality education and those without such opportunity. Inequalities all over the world are sad for people. There is also a maxim: "Friendship is the strongest among equals"

(3 minutes)

I will give my classmate my bike, my ball, to use them together, for me this is not a problem, for him it is a relief and most of all a feeling of friendship.

(1 minute)

Goal 11: Sustainable cities and communities: The city is like an ecosystem. With a large concentration of people and activities, cities contribute the most to the world's environmental problems. There are unique opportunities for resource savings and nature conservation in cities.

(1 minute)

My family and I, together with our neighbor friends, regularly clean between the block space and plant flowers in the gardens to make it pleasant and beautiful. We discover nature in the city.

(2 minutes)

Goal 12: Responsible consumption: The consumer lifestyle has a negative impact on the quality of life of people and the environment.

(1 minute)

I choose to give a drawing drawn by me or a poem written by me, a theater ticket to my loved ones, rather than an expensive and pointless gift. I teach my parents when we go to the store to make a list of the things we need, not to buy everything we see.

(3 minutes)

Goal 13: Climate change: Combating climate change and protecting the environment is an investment in the full and healthy life of generations, for sustainable economic development.

(1 minute)

I am fighting climate change by participating in the "Trees for the Planet" campaign run by the United Nations Environment Program. I choose to ride a bike for short and medium distances because cycling is the future of the world.

(2 minutes)

Goal 14: Underwater life: "The survival of the human species depends on the preservation of purity and life in the world's oceans, which is the lifeline of the planet" Jacques Cousteau. The protection of the world's oceans can only be achieved through joint efforts.

(2 minutes)

I limit the use of plastic bags, plastic bottles, cups, straws, I do not throw anything to the sea, on the beach or inside it, so I do not contribute to the "islands of waste" on the high seas.

(2 minutes)

Goal 15 Life on Earth: On Earth, what is a waste material from one organism serves as a raw material or food for another. The waste that people release into the environment should not be disposed of more intensively than nature can decompose and neutralize.

(3 minutes)

For me, one day alone is not enough to clean Bulgaria. I choose to use cloth bags, glass packaging and paper. I want to give my old cell phone to someone who can't afford it. And most importantly, I don't throw any waste on Earth - I use trash cans, and I recycle what needs to be recycled.

(3 minutes)

Goal 16 Peace and justice: People to respect and value others so that people of different nationalities, cultures and religions live in peace and solidarity. To have patient dialogue and commitment, thus overcoming differences and barriers with joint **efforts, will** overcome hatred and violence. In a world where borders are open, distances are short,

relations between people are facilitated, peace and justice are guaranteed not by force but by trust and dialogue.

(3 minutes)

I have nothing to be friends with children from minorities or other religions.

(1 minute)

Goal 17 Partnerships to achieve goals: No one can go back, but everyone can move forward. Partnership is needed at every level for sustainable development. It is not impossible, the word itself consists of the words IMPOSSIBLE. It is possible to achieve the goals of the UN all together.

(2 minutes)

Everyone gets up to dance to the song "White Rose", which is the best Bulgarian folk song. The rose is a symbol of Bulgaria. Guests are invited to visit the Valley of Roses.

Tips for the facilitator

The teacher directs the students to come to the conclusion that if we do not unite every country, society, every rational being, there will be no success and we would not protect our planet from pollution and all other consequences.

Debriefing

Students prepare a brochure for 17 UN global goals.

Follow-up/Inspiration for the future

Information in social media, school's webpage.

References/Further reading

<https://ecologica.bg/un-development-goals>

Annex

