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Climate and Threats on Cultural Heritage

CATCH



Teacher's Book



Erasmus + KA 2 School Exchange Partnership

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FOREWORD

“Teacher’s Book” is the main result of the Climate and Threats on Cultural Heritage project (Erasmus + KA2: Strategic Partnership in School Education). It includes a collection of lesson plans dedicated to environment protection and preservation, aiming at analyzing the consequences of climate change on our cultural heritage and providing solutions. The partner cities are Massafra from Italy, Tychy from Poland, Despotovac from Serbia, Kolarovo from Slovakia, Alfaro from Spain and Kütahya from Türkiye.

In an era where the health of our planet hangs in the balance, the imperative to address climate change has never been more pressing. As we stand at the crossroads of environmental crisis, it is our collective responsibility to equip the next generation with the knowledge and tools they need to safeguard the Earth's future. At the heart of this endeavour lies the crucial role of education and, in particular, thoughtfully crafted lesson plans that empower students to become stewards of the environment.

This collection of lesson plans dedicated to protecting the climate is a testament to the dedication and vision of educators who understand that their classrooms extend beyond four walls.

May these lesson plans embolden educators to guide their students towards a profound understanding of the climate crisis, igniting a passion to protect and preserve our planet.

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INTRODUCTION

As it was stated in the project summary, the general aim of the project is to build student awareness on the cultural heritage of their city, the preservation of cultural heritage and a critical awareness of climate change problems related to them. Other project objectives are:

- To provide permanent behavioural changing on the pupils about saving our planet and preserving cultural heritage areas through project activities
- Raising awareness on tangible and intangible cultural heritage safeguarding in schools
- To sharing best practices on cultural heritage and climate education among partner schools
- To raise awareness level of importance of cultural heritage areas at city level
- To develop foreign language and teamwork skills of the pupils and staff
- To promote cultural diversity and EU citizenship and respecting other countries culture
- To feeling that they a valuable member of wide EU cultural family

We reached these benefits at the end of the project on the participants;

Students

- Gaining permanent behavioural change on daily life routine to protect our planet
- Willing volunteer to save cultural heritage areas
- Knowing about importance of cultural heritage and hand down it to the next generations
- Knowing partner countries cultures
- Respecting to the cultural and linguistic diversity and human rights
- Breaking the prejudices about other cultures and nations
- Improving the English Language skills
- Developing teamwork and ICT skills

-Feeling as a part of European Cultural Family

Educational Staff

-Breaking the pre-judices about other culture and nations

-Developing professional skills and comparing the teaching methods with partner countries education systems

-Gaining new methods of cultural heritage education

-Making long-term transnational cooperation with European colleagues

-Promoting cultural and linguistic diversity

-Fighting xenophobia and racism

-Carrying the ongoing activities of the school to the international area

-Improving the teamwork, ICT and foreign language skills

-To eager continue to the international partnership projects

Project Period

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THE IMPORTANCE OF LESSON PLANNING FOR SUCCESS

Any experienced teacher will tell you that lesson planning is a big part of the job. Teachers around the world routinely spend as much as half of their working time on non-teaching activities, and lesson planning accounts for much of that time.

Lesson planning is how teachers synthesize the curriculum goals with pedagogy and knowledge of their specific teaching context. Ask ten teachers about the benefits of lesson planning, and you might very well get ten unique answers. There are also different opinions about how far ahead a teacher should plan lessons. Some recommend working a week out, while others advocate planning a month ahead. In the end, though, creating successful learning outcomes for students is the goal. Although well-designed lesson plans take time and thought, it's an investment that can provide returns in many ways.



Effective lesson planning contributes to successful learning outcomes for students in several ways. A well-designed lesson plan:

- Helps students and teachers understand the goals of an instructional module
- Allows the teacher to translate the curriculum into learning activities
- Aligns the instructional materials with the assessment
- Aligns the assessment with the learning goal
- Helps assure that the needed instructional materials are available
- Enables the teacher to thoughtfully address individual learning needs among students

Effective lesson planning can also contribute to the teacher's own success and well-being. Teachers teach because they want to support students, and effective lesson planning can contribute to job satisfaction when a lesson is successful or a student does well on an assessment. Having a skilfully-planned lesson can also make the act of teaching more pleasurable by increasing the teacher's confidence in themselves and letting them focus more on interaction with the students than on what is supposed to happen next.



Importantly, good planning can save time by avoiding last-minute efforts to buy supplies or create materials needed for a day in the classroom. Teachers can use that reclaimed time for themselves or other parts of their lives, increasing work-life balance.

The Importance of Lesson Planning to Effective Curriculum Delivery

“Curriculum” is a word with many meanings, depending on the context. At the most abstract level, curriculum theory addresses such different aspects of teaching as what elements are included in the course of study, along with considerations of how it is taught and tested.

Some Curricula are More Detailed and Structured Than Others

Regardless of the level of detail, the importance of lesson planning is that it bridges the curriculum’s intent with the daily teaching and learning in a classroom. At a minimum, lesson planning adds the element of time, breaking the curriculum into units delivered each session. Usually, though, teachers incorporate their training and knowledge of their students into the task, translating a previously developed curriculum into an action plan for their classroom.



The Importance of Lesson Planning to Student Assessment

The lesson plan translates the curriculum into clear daily goals for student learning that include a description of the objective and a way to measure the student’s attainment of it.

A few standard measurement methods are tests, homework assignments and group work. One benefit of the lesson plan is fitting the assessment to the particular goal while accounting for your specific situation. Some educational writers argue that teachers should design the evaluation before designing the learning activities. Working outward from the central idea of the learning objective allows teachers flexibility in choosing the type of assessment that will best suit their students and the classroom environment.



Why Lesson Planning Is Important for Classroom Management?

Building the lesson plan outward from your learning goals also offers much-needed flexibility in adapting instructional delivery and classroom management during uncertain times. Classes that move from onsite to online or hybrid require different delivery methods, requiring adjustments to existing plans. Such situations highlight the importance of lesson planning in keeping the class moving smoothly from task to task regardless of the learning environment. Advance lesson planning also minimizes the need for discipline and allows you to make the most of your time with students.

Better Lesson Planning Creates More Student Success

Student success and good behaviour are more likely when your pupils are actively engaged in classwork. A thoroughly planned lesson facilitates that desirable state by

considering unique student educational needs. “All successful teachers need to be pupil-focused; in other words, you have to think about how the learning activity you have set up will be experienced by each pupil, and how this experience will generate your intended learning outcomes.”



Better Lesson Planning Is Important for Teacher Success

Teacher success is predicated on student success. Beyond that, the documents you create as part of the planning process are usually part of your evaluation by school administrators. Therefore, having well-prepared and documented plans is an integral part of your success as a teacher. Your lesson plans also become a repository of your growing knowledge as you continue to teach. The importance of lesson planning in furthering your professional growth is undeniable. Cultivating good habits for preparing and reviewing your lesson plans prepares the ground for your success.

LESSON PLANS

I. GREEN DESIGNERS ON THE JOB

You are an environmentalist architects hired by the city of project partners. Your job, if you choose to accept it, is to come up with a series of design changes to school of the future to help make it a more environmentally friendly school building.

You will present your design changes as a poster or PowerPoint presentation. Your proposed changes must address each of the following environmental issues currently facing the city of the partners:

- Global Warming
- Direct Harvesting of natural recourses resulting in habitat loss (losing the forests)
- Pollution due to industrial activities (toxic waste)
- Increased demand on limited recourses like fresh water, timber, and fossil fuels
- Excess waste and garbage entering the ecosystem

1- Project Requirements:

For each improvement you are making you must:

- Describe the design change you are making and draw it
- Explain the environmental problems it helps solve
- Include a diagram or picture

2- Project Timeline:

Final due date:

3- Project Deliverables: You must turn in:

Canva or PowerPoint files

4- Instructions

Please set up a group which consists of 4 persons and choose a name for your group.

Group Name:

Group Members

1-

2-

3-

Who will be present?

EVALUATION

Core Values	Inquiry	Process	Creativity	Empathy	Craftsmanship
1	Did you solve the problem being presented to you? No, I did not solve the problem	Did you take all the necessary steps to follow the problem and complete all components of the project? No, I did not complete all steps in the project	The solutions you show off in your project reflect your personal style, interests, and passions No, my project does not show off my personal style, passions, and interests	I am aware of the importance of my project to the community No, it is not clear from my project that I'm aware of the importance of it to the community	My project is well made and is of professional quality My project is not well made. It is messy, has typos, and looks unfinished
2	Yes, I solved the problem, but I didn't include all necessary solutions	I completed most steps in the project, but not all of them	My personal style is present in portions of my project, but not all	It is somewhat clear from my project that I am aware of its importance to the community	My project is well made in parts, but could still use some revisions
3	Yes, I solved the problem, but I did not present all possible solutions	Yes, I completed all steps in the project	My personal style, passions, and interests are present in my presentation	It is clear from my project that I am aware of its importance to the community	My project is clearly revised and well made
4	Yes, I solved the problem and presented a variety of practical solutions	Yes, I completed all steps in the project and completed them thoroughly	My personal style, passions, and interests are so clearly present in my presentation that you can tell it's mine immediately	It is very clear that I know the importance of my project	My project is well made and revised. It is of professional quality

II. RECYCLING MONSTERS

Name of the lesson	Technology and Design
Grade	12-14 years old
Subject	Designing recycle box
Time	4 Lesson Hour

Target Behaviours	<ul style="list-style-type: none"> -Distinguishes recyclable and non-recyclable materials in household waste. -Designs projects for recycling of domestic solid wastes. -Thinks recycling in terms of effective use of resources. -Develops the responsibility of waste control in its immediate surroundings.
Keywords	Domestic solid waste materials, Recycling, Reuse, Reduce, Rethinking
Methods	Lecture, Question and Answer, Role Playing, Group Work
Requirements	3 Cardboard boxes (50x30x40 cm or similar), Colour Printer, Hot Glue Gun, Silicone candle, Scissors, Ruler (50cm), Pencil, Craft knife, Crayons, Stick glue
Security	The teacher should warn the students about using hot glue gun and craft knife. Hot glue gun can burn the fingers and craft knife can cut. So, the students should use these materials carefully. Also, teacher can help to the pupils when they use these materials.
Warm up	<p>Bring in four plastic bags; each containing different items for example pieces of aluminium foil, scrap papers, banana skins, plastic bottles, batteries, empty cans, glass bars, aerosol cans, paper boxes, some newspaper, and cupcakes.</p> <p>Divide class into four small groups. Assign each group a letter name: A, B, C, and D. Give each group one bag. Ask each group to decide if any of the items could go to a recycling box. Stick two paper sheets; one on each side of the class. Write "Can recycle" and "Can't recycle".</p> <p>Explain task: ask students to stand up, walk round the class, and write on sheet 1 the name of the items they decided to send to the recycling box, and on sheet 2 the items which won't go to the recycling box. Leave the paper sheets hanging for a later discussion.</p>
Processing	<p>Announce crafts time. Divide the students to the 8 groups. Put in the table all required materials. Announce a competition between groups to see who can make the coolest recycle box on how to save the environment.</p> <p>The winner group should satisfy the following criteria:</p>

	<ul style="list-style-type: none">-The box that raises students' awareness to the importance of recycling and provides solutions on how to save the planet.-The box also needs to include the recycle sign, project logo, group members name and surname and Erasmus beneficiary logos.-All the groups will be winner and their boxes put to the school corridors.-The students can use computer to print logos and signs. Also, they can research sample designs for recycle boxes.
Evaluation	The students fill the self-assessment form below.

Self-assessment Form	
1-What did I learn in this activity?	
2- What did I do well? Why?	
3- What did I have trouble with? Why?	
4-Where did I need help?	
5- In which area should I improve myself more?	
6- What are my strengths and weaknesses?	

III. EXPLORING THE SILESIA REGION

Title	Exploring the Cultural Heritage and Climate Change Impacts on the Silesian Region
Objective	Students will be able to identify and explain the cultural heritage of the Silesian Region and the impacts of climate change on its natural resources.
Material needed	<ul style="list-style-type: none">- Whiteboard or smart board- Markers- Printed handouts- Access to the internet for research
Lesson Plan: Introduction (5 minutes):	Greet the students and introduce the topic of the lesson: the cultural heritage of the Silesian Region. Briefly explain that the region has a rich history and a mix of cultures that have influenced its customs, traditions, and architecture.
Lesson Content (25 minutes):	<p>Reading and Discussion (15 minutes): Hand out printed copies of the text to each student and ask them to read it silently. After they finish, ask them to share any new information they learned about the Silesian Region's cultural heritage. Ask questions to promote discussion, such as:</p> <ul style="list-style-type: none">- What are some of the cultural symbols of the Silesian Region?- What is the Silesian wedding like?- What are some popular dishes in the region?- What are some examples of Silesian architecture?- What impact has climate change had on the region's cultural heritage? <p>Group Activity (10 minutes): Divide the students into small groups. Give each student the question sheet for the article and ask each group to work together on answering the questions. After the groups have completed the activity, go over the answers together as a class.</p>
Activities (10 minutes):	Play a short video or audio clip of Silesian music or dance to give the students a taste of the region's cultural heritage.
Conclusion (5 minutes):	Review the main points of the lesson and ask students if they have any questions. Emphasize the importance of protecting and preserving the region's cultural heritage. Encourage students to learn more about the Silesian Region and its cultural heritage on their own.

Read the article below and answer the questions.

The Effects Climate Change Has on the Cultural Heritage of the Silesian Region

The Silesian Region, located in southern Poland, has a rich cultural heritage that dates back centuries. The region is home to a diverse mix of Polish, German, Czech, and Slovak cultures, which have all influenced its unique customs, traditions, and architecture.

One of the most prominent cultural symbols of the Silesian Region is its distinct dialect, which is a mix of Polish and German languages. The dialect is still widely spoken by many residents of the region and is often used in folk songs, poems, and literature. Another cultural tradition that is unique to the region is the “Silesian wedding,” which is known for its lively music, colourful costumes, and traditional dances. The Silesian Region is also known for its culinary heritage, which includes hearty meat dishes, traditional soups, and a variety of bread and pastry recipes. Some of the most popular dishes in the region include “kaszanka” (a type of sausage made with buckwheat), “kluski śląskie” (a type of potato dumpling), and “żurek” (a sour rye soup). The region’s architecture is also a testament to its rich cultural heritage. Silesian architecture is characterized by a mix of Gothic, Baroque, and Art Nouveau styles, which can be seen in the many castles, palaces, and churches that dot the landscape. The region is also home to several UNESCO World Heritage sites, including the historic silver mines of Tarnowskie Góry and the wooden churches of southern Poland.

The Silesian Region is not immune to the effects of climate change. In recent years, the region has experienced more frequent and severe weather events, such as floods, droughts, and heat waves. These extreme weather events have had a significant impact on the region’s cultural heritage. One of the most visible effects of climate change on the region’s cultural heritage is the erosion and degradation of historic buildings and monuments. Increased rainfall and flooding have caused damage to many of the region’s historic structures, while rising temperatures have led to the deterioration of wooden buildings and artefacts.

Climate change has also affected the region’s agricultural practices, which are an important part of its cultural heritage. Changes in temperature and precipitation patterns have made it more difficult for farmers to grow traditional crops, such as potatoes and rye, and have led to the decline of traditional livestock breeds.

In addition to these impacts, climate change has also threatened the region's natural heritage, which is closely tied to its cultural heritage. Many of the region's historic sites and traditions are closely linked to its natural environment, including its forests, rivers, and mountains. As these natural ecosystems are impacted by climate change, the region's cultural heritage is also at risk.

To address these challenges, the Silesian Region has begun to take action to protect its cultural heritage from the effects of climate change. Efforts are underway to restore and protect historic buildings and monuments, and to promote sustainable agriculture practices that can withstand the impacts of climate change. The region is also working to preserve its natural heritage, including its forests and rivers, which are essential to the preservation of its cultural traditions and practices.

In conclusion, the Silesian Region's cultural heritage is a testament to its rich history and diverse mix of cultures. While climate change has posed significant challenges to the region's cultural heritage, efforts are underway to protect and preserve these traditions for future generations. Through careful planning and sustainable practices, the region can continue to celebrate its unique cultural heritage for years to come.

1. What is the Silesian Region known for in terms of its cultural heritage?

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.....

2. How has the region's architecture been influenced by different styles over time?

.....
.....

3. What is the Silesian dialect, and how is it used in the region's culture?

.....
.....

4. What are some popular dishes in the Silesian Region?

.....
.....

5. What are some of the region's UNESCO World Heritage sites?

.....
.....

6. How has climate change impacted the Silesian Region's cultural heritage?

.....
.....

7. What are some of the effects of extreme weather events on the region's historic buildings and monuments?

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.....

8. How has climate change affected the region's agricultural practices?

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.....

9. Why is the preservation of the region's natural heritage important for its cultural heritage?

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10. What steps is the Silesian Region taking to protect its cultural heritage from the impacts of climate change?

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11. How has the Silesian Region's culinary heritage been impacted by cultural influences over time?

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.....

12. What are some examples of the Silesian Region's traditional livestock breeds?

.....
.....

13. How has climate change impacted the region's natural heritage?

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.....

14. What is the role of the forests, rivers, and mountains in the region's cultural heritage?

.....
.....

15. Why is the preservation of the Silesian dialect important for the region's cultural identity?

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IV. UNDERSTANDING CLIMATE CHANGE

Objective:	Students will be able to understand what climate change is, its causes and consequences, and how we can help mitigate its effects.
Materials Needed:	<ul style="list-style-type: none"> • Whiteboard or smart board • Markers • Printed handouts with simple definitions of key terms related to climate change (they need to be cut ✂) • Interactive online tools or videos on climate change
Introduction (5 minutes):	Greet the students and introduce the topic of climate change. Ask the students if they have heard of climate change before and what they know about it.
Lesson Content (25 minutes):	<p>Define climate change and explain the greenhouse effect and how it contributes to climate change. Explain the natural and human causes of climate change, including the use of fossil fuels, deforestation, and agriculture.</p> <p>Discuss the effects of climate change, including rising sea levels, melting glaciers, extreme weather events, and impacts on wildlife and ecosystems. Discuss possible solutions to mitigate the effects of climate change, such as reducing greenhouse gas emissions, using renewable energy, and protecting forests and wildlife.</p>
Activities (10 minutes):	<p>Divide the students into small groups and provide them with printed handouts with simple definitions of key terms related to climate change.</p> <p>Ask each group to work together to match the terms to the definitions. After the groups have completed the activity, go over the answers together as a class.</p>
Conclusion (5 minutes):	Review the main points of the lesson and ask students if they have any questions. Emphasize the importance of taking action to address climate change and encourage students to think about ways they can help reduce their carbon footprint.
Assessment:	You can assess the students' understanding of climate change by asking them to create a poster or infographic about climate change, its causes and consequences, and possible solutions. Alternatively, you could ask them to write a short essay about what they have learned in the lesson.
Online tools and videos on climate Change:	<ul style="list-style-type: none"> • Climate Interactive's En-ROADS simulator (https://www.climateinteractive.org/tools/en-roads/) • NASA's Climate Kids website (https://climatekids.nasa.gov/) • National Geographic's "Before the Flood" documentary (https://www.nationalgeographic.com/environment/global-warming/before-the-flood/)

✂ Handout – simple definitions of key terms related to climate change. ✂

Carbon Footprint	The amount of greenhouse gases (such as carbon dioxide) that are emitted into the atmosphere by an individual, organization, or product.
Climate	The average weather conditions of a particular region over a long period of time, usually 30 years or more.
Climate Adaptation	Actions taken to adapt to the changing climate and its impacts, such as building sea walls to protect against rising sea levels, or developing drought-resistant crops.
Climate Change	A long-term change in the average weather conditions that have come to define Earth's local, regional and global climates.
Climate Mitigation	Actions taken to reduce or prevent the emission of greenhouse gases, such as reducing energy use, promoting renewable energy, and improving energy efficiency.
Deforestation	The process of clearing forests for agriculture, urbanization, and other human activities, leading to a decrease in the number of trees that absorb carbon dioxide from the atmosphere.
Fossil Fuels	Non-renewable energy sources that are formed from the remains of plants and animals that died millions of years ago, including coal, oil, and natural gas.
Global Warming	The gradual increase in the Earth's average surface temperature due to the increase in greenhouse gases (such as carbon dioxide, methane and nitrous oxide) in the atmosphere, caused primarily by human activities.
Greenhouse Effect	The natural process by which the Earth's atmosphere traps heat from the sun, which keeps the planet's temperature within a range that is suitable for life.
Renewable Energy	Energy sources that can be replenished naturally in a relatively short period of time, including solar, wind, hydro and geothermal energy.

V. GREEN FRIENDS

Subject:	Environmental Education
Grade:	11-14 years old
Topics:	Designing a "green" house with renewable energies
Duration:	45 minutes
Objectives:	Environmental education, developing presentation skills, learning about sustainability, learning about renewable energy sources
Preparation:	<ul style="list-style-type: none">- Preparing blank paper cards, markers and magnets;- Draw a top view of a house on a magnet board, with at least the following rooms: kitchen, bathroom, living room, garage, garden.- 5 students prepare a small presentation for the class on the following topics in advance:<ul style="list-style-type: none">- water saving options at home- energy saving possibilities at home- waste management- how to save water, water saving in the house- green transport

Parts of the lesson

I.	Introduction of the topic, motivation	5 minutes
II.	Imparting knowledge, short presentations	12 minutes
III.	Imparting knowledge, short presentations	12 minutes
IV.	Development of tasks	10 minutes
V.	Description of the elements of a greenhouse by group	13 minutes
VI.	Evaluation, confirmation	2 minutes

	Task	Method form of work	Tools	Time
I. Topic introduction motivation	<p>1. Earth's global problems, facts and figures</p> <p>-Discussing the global problems threatening the Earth and affecting our future (urbanisation, overpopulation, global warming)</p> <p>-Bringing up some facts that give a sense of the seriousness of the problems:</p> <ul style="list-style-type: none"> - The Arctic ice cap has been melting for decades, shrinking by more than 10% in the last ten years. - The ice cap has been shrinking for decades, and has been reduced by less than ten times since the last decade. Population growth is exploding in developing countries. - The rapid and excessive use of natural resources has upset the previous balance of the Earth's systems - in about 40-50 years, the Earth's oil reserves could run out. - In Slovakia, a total of 4 million tonnes of household waste is generated every year. <p>-One person throws more than 400 kg of waste into the garbage every year. "These are all problems that, with a little attention, we can take care of ourselves, and even design our homes to address them, to be sustainable.</p> <p>-Purpose: In today's lesson we will look at how to make a home as environmentally sustainable as possible. Together we will put together a sustainable green house.</p>	<p>Frontal classroom work</p> <p>Directed conversation</p>		5 min.
II. Imparting knowledge, short presentations	<p>2. The concept of sustainable development</p> <p>Explain what sustainability is. "Sustainable development is development that meets the needs of the present without compromising the needs of future generations, us</p>			

	<p>grandchildren. For example: if humans use up the Earth's energy reserves in the coming decades, future generations will not have enough energy resources - this development is not sustainable."</p> <p>1. Short presentations on sustainability "Five of you have given us presentations today, giving us ideas on how we can do something about global problems ourselves." The students will give their presentations on the following topics: - water saving at home - water saving options at home - Waste management - how to save water, how to save energy - green transport</p> <p>Students can write down the most important green tips during the short presentations.</p> <p>2. Collecting sustainability practices: At the end of the presentations collect the most important sustainability tips using a word chain. Students take turns to say one sustainability tip after another that they have heard in the small presentations. Assign two students to write them down on blank paper cards, which will be the action cards for the rest of the session.</p>			
<p>III. Forming Groups</p>	<p>Forming five groups, assigning tasks Each group will represent a part of the house and they have to make that area sustainable. The 5 groups: 1. kitchen 2. bathroom 3. living room 4. garage and roof 5. garden "Discuss who is responsible for what in the group, have someone to take notes, be a time keeper, brainstormer or spokesperson to present your sustainability ideas on behalf of the team."</p>	<p>Group work within frontal class work</p>		<p>3 mins.</p>

IV. Task development	<p>1. Group work "Each team is tasked with making their part of the house sustainable. You can bring the necessary action cards from the common table, but you can also write additional action cards if you have more sustainability tips." Have groups work independently, but make sure they use the most essential sustainability practices. If necessary, help them by guiding them in the right direction. The following action cards are recommended:</p> <p>Kitchen:</p> <ul style="list-style-type: none">- Water-saving tap- energy efficient household appliances- dishwashing by soaking, not in running water- cooking with lid, on low flame- selective waste bins <p>Bathroom:</p> <ul style="list-style-type: none">- water-saving toilet flush- Environmentally friendly cleaning products- washing powder, washing soda- water reservoir to catch grey <p>Water:</p> <ul style="list-style-type: none">- showering instead of bathing- water shut-off when brushing teeth <p>Living room:</p> <ul style="list-style-type: none">- advanced thermal insulation- southern exposure- plenty of sunshine- electronic devices switch off instead of standby mode- turn off the lamp- installing LED bulbs instead of conventional ones- geothermal heating system <p>Garage and roof:</p> <ul style="list-style-type: none">- solar collector- electric car- bicycle, scooter- eco-friendly fuels- frying oil storage- gym	Cooperative learning		10 mins.
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	<p>Garden:</p> <ul style="list-style-type: none">- tree planting- organic garden- vegetables, fruit, herbs- compost bin- rainwater harvester- wind turbine- water left over after hand washing, showering			
V. Description of the elements of a green house by group	<p>Sustainable housing "building"</p> <p>Each team's spokesperson, alongside a model of the house drawn on the magnet board, demonstrates how to make their part of the house sustainable. Record the action cards on magnets in their room. Highlight the more important sustainability methods that are repeatedly used, giving other examples of use and future-oriented solutions.</p>	Student reports		13 mins.
VI. Evaluation, confirmation	<p>Summary, evaluation</p> <p>After the teams' reports, let's review the main points of the sustainability practices (water conservation, energy efficiency, renewable energy, chemical-free households, green transport, etc.). Praise the teams for their work and individual ideas.</p>	Confirmation Teacher evaluation		2 mins

VI. THE IMPACT OF CLIMATE CHANGE ON THE NATURAL AND CULTURAL HERITAGE OF KOLÁROVO

Grade:	13-15 years old
Objective:	<ul style="list-style-type: none">• learn about the negative effects of climate change on Kolárovo's cultural and natural heritage• to identify the main problems and outline possible solutions
Materials Needed:	<ul style="list-style-type: none">• projector, laptop (+ access to the internet)• Printed text about the impact of climate change on the natural and cultural heritage of Kolárovo• work sheet with questions
Preparation:	Four students prepare short Power Point presentations on Kolárovo's cultural and natural heritage Topics: <ul style="list-style-type: none">• water mills on the Danube• the Dögös nature reserve• Traditional Pentecost Dance Procession in Kolárovo• the memory of the great flood of 1965 and the memorial
Introduction (5 minutes)	Students are introduced to the topic of the lesson, and the concepts of cultural and natural heritage are explained. Students will collect sites of cultural and natural heritage of Kolárovo in a group competition.
Lesson Content Part 1 (10 minutes)	Four students will give a short Power Point presentation on Kolárovo's cultural and natural heritage, highlighting the rich history of Kolárovo and the distinctive folk culture of the area. Topics: water mills on the Danube, the Dögös nature reserve, traditional Pentecost Dance Procession in Kolárovo, the memory of the great flood of 1965 and the memorial. In the meantime, students take notes on the lecture they have heard and then briefly read out what new information they have learned about the cultural and natural heritage of Kolárovo.

Part 2 (15 minutes)	The impact of climate change on the natural and cultural heritage of Kolárovo Reading and Discussion (15 minutes): Students receive a pre-printed text on the negative effects of climate change on Kolárovo's cultural and natural heritage. They read the text silently. After they finish, ask them to share any new information they learned about the topic.
Group Activity (10 minutes):	Divide the students into small groups. Give each student the question sheet for the article and ask each group to work together on answering the questions. After the groups have completed the activity, go over the answers together as a class.
Conclusion (5 minutes):	Review the main points of the lesson and ask students if they have any questions. Emphasize the importance of protecting and preserving the region's cultural heritage.

Read the article below and answer the questions.

The impact of climate change on the natural and cultural heritage of Kolárovo

Kolárovo is located in the Csallóköz, the largest river island in Europe. It is bordered by rivers: the Danube to the south, the Little Danube to the north and the Váh to the east. This area is famous for its rare and protected birdlife. It is one of the most strictly protected landscape units in Slovakia. In 1993, the marshlands of the Csallóköz were declared a Ramsar site. The Ramsar Convention is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. Captain Cousteau, the famous explorer, also visited the area.

Kolárovo's cultural and natural heritage is also located in this protected area: the Dögös nature reserve and the main attraction of Kolárovo, the water mill. Unfortunately, climate change is negatively affecting their condition. In the Dögös nature reserve is the Little Danube estuary, which was a navigable, living river until the 19th century. In the 20th century, however, no care was taken to clean it, and it became completely silted up and unnavigable. The river was therefore diverted, turning this stretch of the river into a backwater, home to an incredible number of rare and strictly protected plant and animal species in the last century. Today, however, it is in danger of drying up before our very eyes, along with the two artificial lakes

that run alongside it. Fish kills are common, and the number of animal species is declining, with fewer nesting birds and changes in behaviour. For example, storks do not fly to Africa, but stay here for the winter. The drastic decline in the number of swallows may have led to a previously rare mosquito invasion in the region. Lots of organizations try to preserve this beautiful natural area. Enthusiastic volunteers also organise annual environmental days to clean up the area around the estuary from the huge amount of rubbish. Students from our school also take part in these activities every year. The Ornithological Society does a lot to save the bird species living in the area. There is also an ornithology workshop at the local leisure centre, which is attended by our students. They are involved in bird ringing and in the creation of bird habitats in the Dögös area.

The most beautiful attraction of our city is the water mill. It is situated in the DÖGÖS nature reserve. The mill is accessed by the longest completely wooden covered bridge in Europe. In the area of the mill there is a folklore open - air museum. Directly at the mill, a water milling museum was established which features exhibits including a unique machine for production of fishing nets, one of the first in the world. The boat mill is also among Slovakia's national cultural heritage sites.

The milling industry in Csallóköz is one of the ancient professions, the first structures were built sometime in the 8th - 9th century. Over time, hundreds of mills were functioning on the rivers of Csallóköz. As I speak now, only three of them remained. One is located in Gúta/Kolárovo. As time passed, the mills increasingly lost their significance, meanwhile the steam mills took their place. Later on, engine-driven mills as well as electric ones appeared. The original mill was built in 1920 which was standing on a two parallel swimming, anchored boat. It was running until 1945, but it burned down under mysterious circumstances. People started rebuilding it in the 70s, the construction was finished in 1982. After all, the mill took its final place in 1995, ever since that, it's a part of the national cultural heritage. At the moment, it is functioning as a Mill Museum, but the reconstruction and maintenance cost a ton of money since it's permanently in water. In this manner, the timberwork quickly gets messed up. This year, the replacement of the mill - wheel cost 30,000 euros. The water mill

association also arranges environmental programs for the student groups. The main mission for this association is to teach today's generation about organic education/ecology.

Beside lots of others, children can have the opportunity to know how our ancestors could use so many natural energies without polluting the nature. Ongoing climate change, affects each of us. Therefore, it is crucial to be able to identify problems and implement the right adaption and mitigation measures.

Worksheet Activity

- 1- What is the purpose of the Ramsar Convention?
- 2- Which famous researcher has visited the Csallóköz region?
- 3- What is the impact of climate change on the Dögös nature reserve?
- 4- What were the negative consequences of the swallows' drastic disappearance?
- 5- What activities does the Ornithological Society contribute to reducing the negative impacts of climate change?
- 6- Since what century did water mills operate?
- 7- How many water mills were there in the past on the rivers of the Csallóköz?
- 8- When did the water mills in the Csallóköz lose their importance?
- 9- How long did the original watermill on the Little Danube operate?
- 10- How does climate change affect the cultural and natural heritage of Kolárovo?

VII. SOLUTIONS TO THE EFFECTS OF CLIMATE CHANGE

Objective	The aim is to make students capable of identifying solutions to mitigate the causes and effects of climate change in three areas: energy saving, renewable energy sources and wastewater use.
Materials Needed	Worksheets on pollution, global warming and renewable energies: - https://www.linguahouse.com/esl-lesson-plans/general-english/global-warming - https://www.linguahouse.com/esl-lesson-plans/general-english/pollution - https://www.linguahouse.com/esl-lesson-plans/general-english/saving-the-earth -Coloured cardboard to make a concept map on a playground wall about causes and effects of climate change and solutions they suggest in the three areas we propose: energy saving, renewable energies and waste water use. -Pens, markers, highlighters, glue, scissors, paints, paper, sheets of paper. -Videos.
Introduction Lesson Content	<p>We explain to students that, as they already know, the effects of climate change affect all areas of our lives and also our cultural heritage. For this reason, we encourage them to promote solutions to reverse this phenomenon. Through this activity they will seek, identify and present solutions to climate change.</p> <p>We expose some causes and consequences of climate change: energy production, fossil fuels, deforestation, pollution, droughts, floods, diseases, endangered species, endangered ecosystems ...</p> <p>We explain to students that there are almost three areas of solutions to reverse these phenomena: energy saving, renewable energy sources and the use of wastewater.</p> <p>Then we ask them to do three tasks:</p> <p>1st - Three worksheets, in international teams of 5 people already created, about global warming, pollution and renewable sources of energy. Their aim is to analyse and look for data to complete the mural in the playground.</p> <p>2nd. To fill in the mural with the two fields: the field of causes and effects of global warming and the field of solutions within the three areas proposed.</p>
Activities	Students complete the worksheets in international cooperative work teams. In this way they work, debate, analyse and share their ideas on the challenges that are proposed to them: identify the

	causes and consequences of climate change as well as the solutions within the areas that the teachers suggest. We also encourage you to come up with any more ideas that come to mind.
Conclusion	Fill in the entire wall map looking for a multitude of proposed solutions to the problems of climate change. Encourage students to take a proactive stance against climate change and protect our cultural heritage.
Assessment	<p>Correct the worksheets and the wall poster: what the students have written, drawn, expressed, discussed... In which area do they see more solutions, what are for them the most important causes of climate change, what do they emphasize...</p> <p>Analyse how they work as a team: if there is communication, exchange of ideas, debate, cooperative work...</p>
Online Tools: Videos	<p>Climate Change Learn English Explained Simply Vocabulary, by Learning English PRO: https://www.youtube.com/watch?v=VT-dvQCSM04&list=LL&index=26</p> <p>What really happens to the plastic you throw away by TED-Ed: https://www.youtube.com/watch?v=_6xINyWppB8&list=LL&index=27</p>

VIII. DESIGNING VARIOUS THINGS OUT OF WASTE MATERIALS

Grade	13 - 14 years old
Subject	English language, Art, ICT
Time	4 Lesson Hour

Target Behaviours	<ul style="list-style-type: none">- To collect the necessary materials as plastic bottles and cups, cans, paper and plastic bags, newspapers- To design plans for recycling bottles and caps, cans, paper and plastic bags- To draw the outlines of the pictures they want to use with felt pens- To think recycling in terms of effective use of resources.
Keywords	Plastic bottles and caps, cans, paper bags, Recycling, Reuse, Reduce, Rethinking
Methods	Lecture, Group Work, Answer the evaluation questions
Requirements	As many plastic bottles, caps, cans, paper as possible, Colour Printer, Hot Glue Gun, Silicone candle, Scissors, Ruler (50cm), Pencil, Craft knife, Crayons, Stick glue
Security	The teacher should warn the students about using hot glue gun and craft knife. Hot glue gun can burn their fingers and craft knife can cut them. So, students should use these gadgets carefully. Also, teacher can help the pupils when they use them.
Warm Up	Bring in plastic bottles, caps, empty cans, paper bags, some newspaper. Divide the class into five groups, 6 students in each group. Assign each group a colour: red, blue, green, purple and orange. Give each group a drawing. Ask each group to decide what material they will need. Explain your students that they have plastic bottles, caps, empty cans, paper bags, newspaper as materials for recycling, and tell them that they will work in groups, they have to be careful while they use the gadgets, and to try their best to make their designs as real as possible.
Processing	Announce crafts time. Put all the necessary materials on the table. Announce a competition between groups to see who can make the coolest recycling picture. The winner group should satisfy the following criteria: <ul style="list-style-type: none">- The design that raises students' awareness of the importance of recycling and provides solutions on how to save the planet.

	<ul style="list-style-type: none">- The design also needs to include the recycle sign, project logo, group members, name and surname and Erasmus beneficiary logos.- All the groups will be the winners and their designed pictures will be put in the school hall.- The students can use computer to print logos and signs. Also they can research sample designs for recycling.
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EVALUATION

The students fill the evaluation form below.

1 - What did you learn in this activity?

2 - What did you do well? Why?

3 - What troubled you most? Why?

4 - Where did you need help?

5 - In which area should you improve yourself more?

6 - What are your strengths and weaknesses?


IX. CREATING RESIN JEWELLERY WITH SAND, BLUE DYE AND NEON PIGMENT

Grade	13 - 14 years old
Subject	English language, Art, ICT
Time	1 lesson: 4 hours



Target Behaviours	<ul style="list-style-type: none"> - Necessary materials as sand, plastic container, blue dye for the resin, glow powder, silicone moulds, necklaces for mounting the pendent. - To choose what material they want to use (protective gloves, plastic container) for resin jewellery work. - To create a pendant inspired by the sea, learn to use the scale.
Keywords	Resin, weighing components A & B, mix components A & B, create pendant with sand, blue pigment and glow powder.
Methods	Lecture, group work, cooperative learning, peer tutoring.
Requirements	<ul style="list-style-type: none"> - The objects (recycling plastic container, recovery sticks to turn) - Material for creating jewellery resin (epoxy resin – scale - recycling plastic container – sand recovery, dye blue, glow powder) - Protective devices (protective gloves -protective masks – plastic table clothes)
Security	The teacher makes the students wear the protective latex gloves before starting work with the resin, plastic table clothes to avoid soiling the counters.
Operative Steps	<ul style="list-style-type: none"> - Wear gloves - Weigh the two-component resin with the balance by removing the tare: component A 17gr) -compose B (10gr). - Weigh the two-component resin with the balance by removing the tare: component A 17 (gr) - compose B (10gr). - Mix component A for 3 minutes, mix component B for 3 minutes. Add component B to component A and mix for another 3 minutes. - Pour a little resin into the Sand glass and add a little sand. Pour some resin into the dye glass and add the dye. Pour some resin into the glow powder glass and add the fluorescent powder. - Use the silicone moulds (mould) and help yourself with the wooden rod to pour the coloured resin, the one with sand and


	<p>the one with glow power into one of the moulds to create a pendant.</p> <p>- Allow the resin to solidify for 24 hours.</p>
Processing	<p>Announce crafts time. Put all the necessary materials on the table. Description and reading of the operative steps. The small working group should satisfy the following criteria:</p> <p>- The design of the pendant recalls the elements and the beauty of the sea.</p> <p>- The resin pendant project sensitizes students in remembering the protection and preservation of marine coasts.</p>

Instruction given to students



Lab.Arte: creation with resin
21/3/22 - ERASMUS + Catch



STEP OPERATIVI:

- **Indossare i guanti**
- **Pesare** la resina bicomponente con la bilancia togliendo la tara: componente A 17 (gr) - componete B (10gr)
- **Mescolare** il componente A per 3 minuti , mescolare il componente B per 3 minuti. Unire il componente B al componente A e mescolare per altri 3 minuti.
- **Versare** un pò di resina ottenuta nel bicchiere Sand e aggiungere un pò di sabbia. Versare un pò resina nel bicchiere colorant e aggiungere il colorante. Versare un pò di resina nel bicchiere glow podwer e aggiungere la polvere fluorescente.
- **Usare gli stampi in silicone** (molde) e aiutarsi con la bacchetta di legno nel versare la resina colorata, quella con sabbia e quella con glow power in uno degli stampi per creare un pendente.
- Lasciar **solidificare** la resina per 24h

STEPS:

- Wear gloves
- Weigh the two-component resin with the balance by removing the tare: component A 17 (gr) - compose B (10gr)
- Mix component A for 3 minutes, mix component B for 3 minutes. Add component B to component A and mix for another 3 minutes.
- Pour a little resin into the Sand glass and add a little sand. Pour some resin into the dye glass and add the dye. Pour some resin into the glow podwer glass and add the fluorescent powder.
- Use the silicone molds (molde) and help yourself with the wooden rod to pour the colored resin, the one with sand and the one with glow power into one of the molds to create a pendant.
- Allow the resin to solidify for 24 hours

X. SOLUTIONS TO THE EFFECTS OF CLIMATE CHANGE

Objective	The aim is to make students capable of identifying solutions to mitigate the causes and effects of climate change in three areas: energy saving, renewable energy sources and wastewater use.
Materials Needed	<ul style="list-style-type: none"> ● Worksheets on pollution, global warming and renewable energies: <ul style="list-style-type: none"> https://www.linguahouse.com/esl-lesson-plans/general-english/global-warming https://www.linguahouse.com/esl-lesson-plans/general-english/pollution https://www.linguahouse.com/esl-lesson-plans/general-english/saving-the-earth ● Coloured cardboard to make a concept map on a playground wall about causes and effects of climate change and solutions they suggest in the three areas we propose: energy saving, renewable energies and waste water use. ● Pens, markers, highlighters, glue, scissors, paints, paper, sheets of paper. ● Videos.
Introduction	We explain to students that, as they already know, the effects of climate change affect all areas of our lives and also our cultural heritage. For this reason, we encourage them to promote solutions to reverse this phenomenon. Through this activity they will seek, identify and present solutions to climate change.
Lesson Content	<p>We expose some causes and consequences of climate change: energy production, fossil fuels, deforestation, pollution, droughts, floods, diseases, endangered species, endangered ecosystems ...</p> <p>We explain to students that there are almost three areas of solutions to reverse these phenomena: energy saving, renewable energy sources and the use of wastewater.</p> <p>Then we ask them to do three tasks:</p> <p>1st - Three worksheets, in international teams of 5 people already created, about global warming, pollution and renewable sources of energy. Their aim is to analyse and look for data to complete the mural in the playground.</p> <p>2nd. To fill in the mural with the two fields: the field of causes and effects of global warming and the field of solutions within the three areas proposed.</p>

Activities	Students complete the worksheets in international cooperative work teams. In this way they work, debate, analyse and share their ideas on the challenges that are proposed to them: identify the causes and consequences of climate change as well as the solutions within the areas that the teachers suggest. We also encourage you to come up with any more ideas that come to mind.
Conclusion	Fill in the entire wall map looking for a multitude of proposed solutions to the problems of climate change. Encourage students to take a proactive stance against climate change and protect our cultural heritage.
Evaluation	Correct the worksheets and the wall poster: what the students have written, drawn, expressed, discussed... In which area do they see more solutions, what are for them the most important causes of climate change, what do they emphasize... Analyse how they work as a team: if there is communication, exchange of ideas, debate, cooperative work...
Online Tools: Video	Climate Change Learn English Explained Simply Vocabulary, by Learning English PRO: https://www.youtube.com/watch?v=VT-dvQCSM04&list=LL&index=26 What really happens to the plastic you throw away by TED-Ed: https://www.youtube.com/watch?v=_6xINyWPpB8&list=LL&index=27

XI. DIVERSITY: RESPECTING AND ACCEPTING DIFFERENCES

Learning Outcomes	Students will be able to: <ul style="list-style-type: none">- Realize that people are connected through shared experiences and interests;- Recognize that there are differences in every community and that creates a diverse and healthy community;- Find ways to be more inclusive.
Materials Needed	<ul style="list-style-type: none">- Group activity cards will need to be made in advance for the introduction activity;- An open space where students can move around;- A ball of yarn;- Copies of the “The Groups I Belong to” worksheet for each student
Background Information	<p>This lesson can be divided into two different sessions where students can take a break after the debriefing to the introduction activity.</p> <p>The first activity looks at what happens when people feel excluded from groups and provides students with an opportunity to discuss how everyone can feel excluded. The main activities focus on the different groups or communities people belong to. It helps us understand how we might share similarities with people who are in different communities and build a greater acceptance for communities different from us.</p>
Procedural Instructions	<p>Introduction Activity:</p> <p>Where do I belong? Pre-activity preparation:</p> <ul style="list-style-type: none">- Stickers/tags for this activity will need to be made in advance. You need to think of different categories and things that represent each category. Here are some examples that you can use:- Colours: Blue, Red, Yellow, Brown- Food: Bread, Meat, Vegetables, Fruit, Oil- Animals: Tiger, Bear, Dog, Horse- You should write one thing on each tag. For example: one tag has the word “dog”. <p>- Important: On three or four tags, there should be a random thing that doesn't belong to any group, or write a question mark on one tag, leave another tag blank. The objective is to create three or four tags that don't belong to any group.</p>

Activity:	<ul style="list-style-type: none">- Start the activity by having the students to stand in a circle. Tell them they have to close their eyes. Place a sticker/tag on each student's forehead. Then tell the students that they have to keep silent and not talk during the whole activity.- Tell the students to open their eyes and walk around and find the group they think they belong to. - You should stand back and watch the activity in order to observe how the students form their groups and to see what happens to the students who don't have a group. Make sure you allow enough time for students to react to the situation of some students not being in a group. You will need to highlight this situation in the debriefing session.- Signal an end to the activity when all students have had sufficient time to move around and discover their groups.
Debriefing	<p>Make sure you allow enough time for students to react to the situation of some students not being in a group. You will need to highlight this situation in the debriefing session. You may begin by asking:</p> <ul style="list-style-type: none">- Did everyone belong to a community?- Ask the students who didn't have a group how they felt.- Ask if other groups invited them to be a part of their group.- Ask students what they could have done to include the students who didn't have a place to go.- Ask students individually to think about a time they weren't invited into a group or invited to an event that they wanted to be a part of. How did it make them feel?
Main Activity 1: Virtual Community Web	<ul style="list-style-type: none">- Have all the students stand in a circle.- Have students think about the things they like to do or things about their family or life. Tell students to choose one thing that is important to them or something they are passionate about. They will have the opportunity to discover if someone else is similar to them. Example ideas could be:<ul style="list-style-type: none">— I am a student.— I like playing games with my friends.— I like football.— I enjoy studying math.— I have a sister.— I live with my grandparents.- Once each student has individually thought about something, you can begin the activity. Tell the students that they need to change their statement into a question in order to discover if someone else is similar to them.- Begin the activity with the ball of yarn in your hand. Begin by asking the first question. For example, "Who has a sister?"- Tell the students that have sisters to raise their hands.

	<ul style="list-style-type: none">- You have to select one of the students who is raising his/her hand. Then, wind a piece of the string around your finger before throwing the ball of yarn to that student. Hold the string tight.- Once the student has the ball of yarn, then he/ she asks a question and throws it to the next person. Again, make sure the student winds the yarn around his/her finger before throwing the ball of yarn. Remind students that they have to keep the string tight.- Tell students that if during a particular question nobody feels like raising their hand, they don't have to do it. In that case, a student with the yarn can throw the ball of yarn to a friend and asks him/her, "So, what is important for you... (friend name)?" Then, the activity continues like it started. The activity ends when all students have had the opportunity to express what is important to them.- The idea is to make a web to show the different ways we are all connected.
Main Activity 2: My communities	<ul style="list-style-type: none">- Begin by asking students to think about the different questions that were asked during the web activity.- Tell students that we often join groups based on our interests and life style choices.- Give each student the "The Groups I Belong to" handout (Appendix 8.1) and ask them to think about and select all of the groups they belong to.- After students finish the handout, have them get into small groups and compare their list with others in their group.- Ask each group to choose a community that they all circled (maybe school or family). - Next, as a group, have the students talk about/ make a list of ways that the community they chose might be similar to a group in a different city and similar to a group in a different country. Students can think about it in this way:
Debriefing	<p>Ask students to think about how communities/ groups are formed.</p> <ul style="list-style-type: none">- Why do people belong to different groups?- How do groups/communities help their members?- Can groups ever be harmful? If so, how? <p>Ask the students to talk about the similarities/ differences in communities/groups.</p> <ul style="list-style-type: none">- Do school communities exist in other places in Kosovo?- How would your community be the same as a community far from you?- What are some of the differences between the communities?- Do you think people have the same reasons for belonging to a community as you?

XII. ANIMALS IN DANGER BECAUSE OF CLIMATE CHANGE

Grade	13 - 14 years old
Subject	English language, Sciences
Time	1 lesson: 4 hours
Objectives:	<ul style="list-style-type: none">• Students will be able to identify the main animal species in danger and explain the reasons of their extinction and the impacts of climate change on their habitat.• To work in groups• Being able to create a group presentation
Materials Needed:	<ul style="list-style-type: none">• Whiteboard• ICT laboratory• Markers• Printed handouts

STEP 1: Group work

Students are divided into groups. In the ICT laboratory they research for some information about the species of animals that mostly are at risk of extinction.

STEP 2: Brainstorming

Each group tells the teacher and the class the name of the animals that are mainly at risk nowadays.

STEP 3: The teacher invites each group to choose one animal, create and complete a chart, following this model:

Animal name	
Species	
Habitat	
Height/Weight	
Physical characteristics	
Why endangered?	
Number of animals left	

STEP 4: Group work

Students prepare a PowerPoint presentation about the animals they have chosen, using the information from the chart, and adding photos and short videos. They create the presentation in the ICT laboratory.

STEP 5: Presentation to the class

Each group shows their work to the class on the whiteboard and comments on the main characteristics of the animals at risk. They explain the reasons why they are in danger and focus on the threats coming from the climate change.

At the end of this activity the class votes for the best presentation.

STEP 6: Individual work

The teacher invites the students to read an in-depth article about the cetacean species in danger in the Gulf of Taranto. Students read the text and answer the questions.

Read the article below and answer the questions

Cetaceans of the Gulf of Taranto at risk of extinction

The species of cetaceans sighted in the Ionian Sea and, in particular in the Gulf of Taranto, do not have many differences from the species of cetaceans that, more generally, are present in the Mediterranean Sea. There are, however, differences in the distribution and abundance of species due to the different characteristics of the Ionian Sea compared to the Tyrrhenian Sea and the Adriatic Sea.

In the Mediterranean Sea there are 12 species of cetaceans. The species are divided in: regular species (regularly present in the Mediterranean area) and occasional species (which occasionally appear in the Mediterranean, especially in the western part).

The regular species are: Striped dolphin, Bottlenose dolphin, Short-beaked Common dolphin, Risso's dolphin, Sperm whale, Fin whale, Pilot whale, Cuvier's beaked whale. The occasional species are: Common minke whale, Killer whale, False killer whale and Rough-tooted dolphin.

Each of these species has specific ecological needs, for example connected to the depth of the sea, the distance from the coast, the availability of their prey, etc. Researches have revealed the existence of significant differences in terms of depth of each species: Fin whales and Pilot whales mostly live in deep waters, generally above 2000 m; Sperm whales, Striped and Risso's dolphins are more frequent close to the continental slope; the Common dolphins generally live between the continental slope and continental shelf; Bottlenose dolphins are coastal animals with a marked preference for waters less than 100 m deep.

It is important to underline, however, how this situation has significantly changed in the last decades, with a drastic reduction of the available habitats for these species caused by human presence in their areas. In fact, all species of cetaceans in the Mediterranean Sea and in the Gulf of Taranto are subject to many threats due to men's activities and many dolphins are increasingly at risk of extinction. The most important threats to their survival are caused by chemical pollution of various nature and sound (especially the ones used for the search for hydrocarbons), accidents with boats and fishing equipment, over-exploitation of fish stocks and habitat degradation. In recent years the impact of plastic pollution is another cause of death of these species.

(Adapted from <https://www.joniandolphin.it/whale-watching/>)

QUESTIONS

1. How many species of cetaceans are there in the Ionian Sea?
2. How can the species be classified?
3. Write the names of 3 dolphins belonging to regular species and of 3 dolphins belonging to occasional species.
4. Do dolphins live at the same depth in water?
5. What are the main threats to cetaceans' survival due to men's activities?



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