

SUBJECT AREAS:

Natural science, social science

ACTIVITY DESCRIPTION:Environment, pollution,
greenhouse effect, sustainability,
climate change**OBJECTIVES:**

- To develop students' understanding of the important causes of environmental problems and some solutions
- To develop vocabulary related to climate change and environmental issues
- To develop pronunciation and dictionary skills
- To develop reading skills and use expressions of certainty to talk about the future

MATERIALS:

- Environmental problems student worksheet
- Dictionaries or access to online dictionaries

GRADE/LEVEL:

Secondary school (15-18)

DURATION:

Preparation time: 120 min.

Activity time: 60 min.

PLACE:

Classroom

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Environmental problems

INTRODUCTION:

This lesson introduces learners to some of the main issues related to climate change. Learners focus on dictionary skills and the pronunciation of strong and weak syllables in long words. Focusing on the lexis in detail will help them recognize and use these terms outside of the classroom. There is a discussion activity which allows students to share their opinions about the environment in the future.

BACKGROUND:

Write "Environment" on the board. Ask students to write down three words (in English!) that they think of when they hear that word. Ask student to compare their three words in pairs and explain to their partner why they chose those words. After this, show a photo to the students and let them describe it, focusing on the topic of the lesson. (the photo is added at the end of this plan).

Procedure:**Outline:**

The teacher writes the title of the new lesson on the blackboard and then presents the objectives of the lesson.

Instruction:

The teacher informs the students that they will revise some information regarding environmental problems and for that they will work individually, in pairs or groups to solve some tasks more efficiently.

Guided Practice:

The teacher shares some worksheets to the students, and they start working. The tasks are various, and the words are related to the topic. The teacher makes sure the students have understood the tasks and helps those in need with more additional information. (task 1 and 2)

Formative Assessment:

After each completed task, the teacher asked the students about the topic, and they must explain the new words. (task 4)

Collaborative Process:

The teacher asked the students to work in pair for the next task. (task 3) Independent.

Practice:

The last task must be completed individually by the students, for the teacher to understand if the students know the new words. (task 5 and 6).

FUN FACTS:

- *Around 27,000 trees are cut down each day.*
- *Humans use only 1% of all available water.*
- *78% of marine mammals are at risk of choking on plastic.*
- *Fungi play a highly vital role in the environment.*
- *Ants weigh more than humans.*
- *On average, one supermarket goes through 60 million paper bags each year.*
- *A glass bottle can take up to 1 million years to decompose.*
- *Recycling one glass bottle saves enough energy to power a normal light bulb for about four hours.*
- *The world's oldest trees are 4600 year old Bristlecone pines in the USA.*
- *Paper from trees can be recycled 6 times.*

ASSESSMENT:

The teacher gives her students to write a short essay (100-150 words) about one thing they can do immediately to protect the environment.

EVALUATION:

Evaluation is done during the lesson, because the teacher asks questions to see if students understand the topic.

A short test can be applied at the beginning of the following lesson.

STUDENTS' WORKSHEET

TASK 1:

Can you talk about the environment and environmental problems in English?

Look at the vocabulary list in the box. Explain the words with a partner.

Why are the words divided into two groups – those in normal text and those **in bold**?

Pollution

Deforestation

Climate change

Recycling

Renewable energy

Public transport

TASK 2: Pronunciation – Word Stress

Look up the alternative word in your dictionary. How does your dictionary tell you that there are 4 syllables in the word?

It might be written something like this:

Alternative:

adjective

UK /bl 'tɜː.nə.tɪv/

The syllable after the apostrophe (') is the stressed syllable. Listen to your teacher say the word.

Use a dictionary to find the stressed syllable for the words on the next page and complete the table with the stressed syllable in the dark box:

Alternative		Al	Ter	Na	tive
Climate			Clim	ate	
Desert					
Dioxide					
Electricity					
Extinction					
Generation					
Global					
Polluted					
Pollution					
Recycling					
Renewable					
Warming					

TASK 3: Jigsaw reading cards

Climate change

Climate change, also called global warming, refers to the changes in the climate and a rise in the average temperatures on Earth. 97% of scientists agree that climate change is happening, and the main cause is from an increase in greenhouse gases (like carbon dioxide, methane and Nitrous Oxide) in the atmosphere. These trap the heat from the sun, which is making the Earth hotter. This is known as the greenhouse effect. Over the last few years, there have been more extreme weather events, like floods, droughts, wildfires and heat waves.

Deforestation

Rainforests help to control global warming because they absorb carbon dioxide. In recent years, large areas have been destroyed, as trees are cut down for wood or burned to clear the land for farming. The burning releases large amounts of carbon dioxide into the atmosphere. Many rainforests grow on poor soil, so when they are cut down or burned the soil is washed away in tropical rains, so that the area may turn into desert. Many plant and animal species that live there can become extinct, and indigenous tribes can lose their homes.

Pollution

Air pollution and climate change are closely linked. Often it is the same gases that create poor air quality in cities especially which can cause serious health problems for people living in urban areas. Water pollution is a huge problem, and unclean water is a major threat to human health. Water pollution happens when dangerous chemicals from factories, farming and other industries are allowed into rivers, lakes and oceans and into our water systems. Plastic waste is also a big problem. Soil pollution is also a big problem. The use of fertilizer and pesticides can contaminate land and threaten food security.

Recycling

Recycling is the processing of used objects and materials so that they can be used again. About 60% of rubbish from homes and factories contain materials that could be recycled. Recycling saves energy and reduces damage to the countryside. Glass, paper and aluminum cans can all be recycled very easily. Many towns have special bins where people can leave their empty bottles and cans for recycling. A lot of paper bags, writing paper and greeting cards are now produced on recycled paper. Even more effective than recycling is choosing products that use a minimum of plastic and paper packaging.

Renewable energy

Up until now, most of the energy we used came from coal, oil and gas (fossil fuel). But these will not last forever and burning them is a major cause of climate change. Many countries are now choosing to use renewable sources for their energy needs. Solar energy from the sun, wind power from turbines, hydroelectric energy from rivers and sea water, and geothermal power, taking heat from the center of the

Earth are the main sources of renewable energy. Countries like Iceland and Costa Rica are leading the way, with Iceland getting 100% of its energy from these renewable sources.

Public transport

Transport has a large environmental impact. People use cars more, especially in urban areas, and this is one of the largest growing sources of carbon dioxide in the world. Private transport contributes to air pollution and global warming, and taking flights is also a big problem. As more and more people fly, greenhouse gases increase. In fact, emissions from aviation in Europe increased by 87% between 1990 and 2006. By using public transport (buses, trains, metros) or cycling in cities emissions from urban transport could be cut by more than 50%. Using trains for longer journeys as an alternative to flying reduces the environmental impact often by as much as 90%, and for some journeys is just as quick.

TASK 4: The environmental quiz

How much do you know about environmental problems?

Take the quiz below:

1. What is the main cause of global warming?
2. What problems can fertilizer and pesticides cause?
3. What is the greenhouse effect?
4. How do rainforests help to control global warming?
5. What type of soil do rainforests grow on? Why is this a problem?
6. Which countries use the most renewable energy?
7. Why is taking the train better for the environment than planes?
8. What is more effective than recycling?

TASK 5: Expressions of certainty

Look at these statements made by a scientist. How certain is he about each statement?

“There’s no doubt at all that the Earth is getting warmer”.

“It’s certain that Earth will have heated up by 4 degrees.

“There will be many other effects”.

“The USA and Russia could suffer from drought”

Put the expressions in the correct section of the table below:

100% sure it will happen	
50% sure	
100% sure it won’t happen	

Add these expressions to the table:

- maybe will definitely definitely won’t might I`m not sure if
- Probably won`t will probably perhaps It`s possible that... I doubt that....
- Won`t I`m certain that

TASK 6: Discussion

Decide if you think the following ideas:

- a) will happen in the next 50 years?
- b) could happen?
- c) won't happen?

Mark the sentences a, b or c.

1. Most cars will be electric
 2. Alternative energy will be more important than coal and oil
 3. You will recycle all your bags, cans and paper.
 4. Almost all the rainforests will disappear.
 5. People will continue to sunbathe.
 6. The climate will get worse.
 7. The next generation will care more about the environment than the present one.
 8. In elections, environmental issues will become more important than any other issues.
 9. Cars will be banned from cities.
 10. People will destroy the Earth.
- Where will you place these in the table of certainty?
 - Think about which expressions of certainty you can use to express your opinion – e.g. I'm certain that most cars will be electric.

