

Renewable sources of energy



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ENVI-MOBILE: Integration of mobile learning into environmental education fostering local communities' development

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Activity No. 1

Part of the lesson:

EVOCATION

The aim of the activity: To ask children what renewable energy and the term “non-renewable” means, what can be renewable or non-renewable.

STEP 1.

Brief description of the activity:

The teacher will use “Brainstorming” to ask children what renewable energy and non-renewable means, what can be renewable or non-renewable, vocabulary and ideas about the issue. The teacher will write all the vocabulary and ideas that the children say. He could structure the notes into 2 columns (renewable/non-renewable). Each child can take part in this activity by raising his/her hand to talk.

Instruction (what you need to tell the students):

What renewable energy and the term “non-renewable” means?

What can be renewable or non-renewable?

Tell me your ideas even if you are not sure whether it is correct or not.

Tools for the activity (everything you need to take to the classroom): Blackboard, chalks

Estimated time (max. 40 min.): 5 minutes

Activity No. 2

The aim of the activity: To enhance the knowledge about renewable energy sources and non-renewable sources of energy by using cartoon videos.

STEP 1.

Brief description of the activity:

Children will watch one video about renewable and non-renewable sources of energy.

The first video is based on different ways of using renewable energy sources, for instance, solar energy, geothermal energy or wind energy and non-renewable energy sources, such as coal, oil and natural gas.

This video is in English and its vocabulary and pace are easy to understand. It takes app. 4 min.

Instruction (what you need to tell the students):

Watch a video about renewable and non-renewable sources of energy to clarify some concepts.

Please pay attention and be quiet.

STEP 2.

Brief description of the activity:

Children will watch a second video just about renewable energy sources because we want them to understand this is the best way to protect the Earth. Moreover, this video gives advice to carry out the task of saving our Planet.

This video is in English and its vocabulary and pace are easy to understand. It takes app. 4 min.

Then discuss shortly what they learned from videos about renewable and non-renewable sources.

Teacher can make notes into already written columns to add more information.

Instruction (what you need to tell the students):

Watch one more video about renewable energy sources.

Please pay attention and be quiet. After that we will discuss what you learnt about the renewable and non-renewable energy sources.

(after the videos) What did you learn from both videos about renewable and non-renewable sources of energy?

Tools for the activity (everything you need to take to the classroom): Screen, film projector, YouTube videos (links in NOTES), internet

Estimated time (max. 40 min.): 10 minutes

Notes: First video: "Stop Motion Film: Renewable vs NonRenewable Energy Sources"

<https://www.youtube.com/watch?v=pBTnVoElb98>

Second video: "Clean Green Energy Cartoon"

https://www.youtube.com/watch?v=Quy-b_Z0xBA

Part of the lesson:

APPRECIATION

Activity No. 3

The aim of the activity: To find out, what can we do to improve the life conditions of our Planet and which sources of energy are better, to go deeper into the topic.

STEP 1.

Brief description of the activity:

Children will analyze a text from ANNEX 1 using "Insert Method" to improve and to structure their knowledge and learning about this topic.

The teacher will provide a text in English to put into practice CLIL methodology.

Children have to read the text several times until they understand all the content.

Children analyze the text by using these symbols:

✓(I know this)

+ (This is new information)

? (I don't understand this)

- (Completely different from what I thought)

Instruction (what you need to tell the students):

Read the text from ANNEX 1. Analyze the text by using these symbols:

✓(I know this)

+ (This is new information)

? (I don't understand this)

- (Completely different from what I thought)

STEP 2.

Brief description of the activity:

Children summarize what they know, what is new, what they don't understand and what is different from what they thought. Teacher discusses and clears all uncertain information and makes notes on blackboard about renewable and non-renewable sources.

Instruction (what you need to tell the students):

What did you know about the renewable and non-renewable sources of energy? What information was new for you? Is there anything unclear for you regarding this topic?

Tools for the activity (everything you need to take to the classroom): ANNEX 1, Blank sheet, and a pen, blackboard and chalks

Estimated time (max. 40 min.): 10 minutes

Part of the lesson:

APPRECIATION

Activity No. 4

The aim of the activity: Children will reflect on the importance of different ways of renewable sources of energy to improve the society's quality of life and to reduce the pollution by performing a role-play game.

STEP 1.

Brief description of the activity:

Children will perform in the class. They will represent renewable sources of energy and non-renewable sources of energy.

Some children will perform renewable sources of energy, such as the wind, the sun and the sea; other children will perform non-renewable sources of energy, for instance, coal, natural gas or oil. Finally, some will represent the society, that is, the population itself.

They will have to come to an agreement to decide which source of energy is better to use, and its advantages and disadvantages. Each group (renewable sources of energy and non-renewable sources of energy) will give arguments to the population group and they will have to decide which sources of energy are better to use.

The teacher can guide the activity by using this question: What would happen with us if ...? (... we run out of non-renewable sources of energy?).

Instruction (what you need to tell the students):

You will be divided into 3 groups.

First group represents renewable sources of energy. Each member will represent some other source, such as the wind, the sun, the sea, . . . You need to give arguments to the population group why is your energy so important.

Second group represents non-renewable sources of energy. Each member will represent something else, such as coal, natural gas, oil, . . . You need to give arguments to the population group why is your energy so important.

Third group will represent the society, that is, the population itself. You need to come to an agreement to decide which source of energy is better to use, that is, advantages and disadvantages. You have 10 minutes for preparation.

STEP 2.

Brief description of the activity:

Role-play. First two groups play their roles and population needs to summarize at the end and decide which source of energy is better for us.

Tools for the activity (everything you need to take to the classroom): Pen and paper to write some arguments

Estimated time (max. 40 min.): 15 minutes

Notes: This can be done in a School theatre or by role playing.

Part of the lesson:
REFLECTION

SOURCE: ENVI-MOBILE / envi.stromzivota.sk

ANNEX 1 - What is Renewable Energy?

All the energy we use comes from the earth. The electricity we use every day doesn't come directly from the earth, but we make electricity using the earth's resources, like coal or natural gas.

Both coal and natural gas are called "fossil fuels" because they were formed by natural transformation processes of dead organisms happened deep under the earth for million years.

The problem is that fossil fuels can't be replaced - once we use them up, they're gone for million years. Another problem is that fossil fuels can cause pollution.

Renewable energy is made from resources that Mother Nature can replace, like wind, water and sunshine. Renewable energy is also called "clean energy" or "green power" because it doesn't pollute the air or the water.

Why don't we use renewable energy all the time?

Unlike natural gas and coal, we can't store up wind and sunshine to use whenever we need to make more electricity. If the wind doesn't blow or the sun hides behind clouds, there wouldn't be enough power for everyone.

Another reason we use fossil fuels like coal and natural gas is because they're cheaper. It costs more money to make electricity from wind, and most people aren't willing to pay more on their monthly utility bills.



NOTES

