

EXPERIMENTAL GYMNASIUM OF CORINTH
STEFANOUE 78-20100, CORINTH - GREECE

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« The Greenhouse effect »
«The climate changes! What about you? »

Experiential game to be applied in class

Preparation / Materials / The teacher:

1. Paints the Earth on the blackboard.
2. Puts a globe on a chair in the middle of the class.
3. Places the chairs for the pupils around the globe in a II formation.
4. Has colored chalks, sponges and cellophane (one transparent and two orange-colored).
5. Brings photos from factories, arid soil, wind generators...

Action

[Teacher]: We shall study a type of energy, which we use in our homes... because we have many... appliances and then we receive a...huge bill! What type of energy is it?

[Students]: Electricity.

[Teacher]: What electrical appliances can you think of? (*Oral Brainstorming*)

[Students]: Refrigerator, washing machine, etc ...

[Teacher]: Come and write them around the earth on the board. I will write the first one. (*He writes refrigerator and paints three small clouds with CO₂ - Carbon Dioxide inside, explaining :*)

- The first cloud-CO₂ comes from the factory which produced the refrigerator.
- The second cloud-CO₂ is for the automobile which carried the appliance home and
- The third one stands for the CO₂ that is produced when the power plant uses lignite, to produce electricity for the functioning of the appliance.

(*The teacher gives the chalk to a pupil. Then the whole class takes turns in drawing electrical appliances and clouds around the globe following the above-mentioned procedure*)

(*The teacher approaches the globe in the middle of the class, handing the transparent cellophane and explaining*).

[Teacher]:

1. If a planet lacks atmosphere, its temperature rises during the day. But at night it is very-very low because heat escapes into space.
2. If a planet has atmosphere, like Earth, (he extends the transparent cellophane around the Globe slowly), temperature rises during the day. But at night it doesn't fall very much because the atmosphere withholds parts of the heat, so it's friendly for life. This phenomenon is called: **"The Greenhouse Effect"**, and it is very good for us!!! And our life!!!
3. As far as the gas that is called carbon dioxide (CO₂) is concerned, we must keep in mind that ... it can withhold a lot of heat. So all these clouds around the Earth can trap large amounts of heat (*the teacher slowly unfolds the orange-colored cellophane around the Globe*), and the temperature of our planet keeps rising ... (*He extends the second orange cellophane slowly*) and...The Greenhouse Effect increases continuously.



(The teacher shows relevant pictures explaining):

The climate changes...

Arctic ice melts...2007 is IPY: (International Polar Year)

Desert expands...

(The teacher takes a sponge, approaches the globe and embraces it)

-Our planet is getting hotter and hotter!!! Just like us, during summer time, when we enter our car after a bathe in the sea!!!

What can we do? What is your opinion? *(Oral Brainstorming)*

(The teacher listens to their opinions. He might give them a little boost if necessary.)

[Students]:

-Turn the lights off before leaving the room ...

-Turn the tap off while brushing our teeth ...

-Plant trees as they absorb the CO₂ ...

-Walk more ...

-Use bags made of cloth instead of plastic ones ...

-Use green and renewable sources of energy: solar, wind, waves ...

...

[Teacher]: So, based on your ideas, you suggest:

1. Conserving Energy!!!

2. Green-Renewable Energy!!!

Ok. Very good!

Look what I am going to do and then you will continue ...

(The teacher, holding a sponge on his hand, touches the Globe and gives a promise), i.e.

- I will come on foot at school every morning!
- I will not use my car so I will not send exhaust-gases out in the atmosphere...so I may ...rub out ...some clouds around our Earth!!!

(The teacher erases a couple of clouds from the board and stretches his hand with the sponge to a pupil)

- It's your turn now...

(Every pupil, takes the sponge, touches the Globe, gives a promise, rubs out some clouds and gives the sponge to another pupil...)

So when the earth on board is completely clean as it was in the beginning the teacher asks:

[Teacher]: Are we going to leave our earth covered?

(Himself, or the students slowly uncover the globe from the orange cellophane and leave the transparent one-Atmosphere).

...

-Our planet is happy now!!!

- We can help our Earth by making minor changes in our everyday routine!!!

-We deserve a big applause!!!

Bibliography :

www.cres.gr

www.windday.eu

www.managenergy.net

EXTENTION ACTIVITIES

At home:

Each student can draw renewable sources of energy:

Solar - wind - geothermic - hydroelectric - of waves - tidal

Or verbs in the imperative form:

Turn off - walk - plant - change - recycle - decide...

And then they can place the projects on the announcement board in their classroom.