Go Green Day

Friday 14 October 2016

Size of Wales Maint Cymru

Climate Change Chaos!

Purpose:

- to understand about climate change and it's impacts
- to be aware of our responsibility as individuals to reduce the causes of climate change
- to run around and have fun

Resources	Suggested time:
10 – 20 pupils and a large space Chalk or 2 long pieces of string to make circles on the ground Set of action cards in an envelope or box	20 - 30 minutes

How to play

Make a circle (approx. 60cm diameter) on the ground with the chalk or the string. This circle represents the Earth. Make a larger circle around it (approx. 460cm diameter). This circle represents the atmosphere.

Test Round

Ask 2 pupils to stand still anywhere in the atmosphere (between the 2 circles). They are CO_2 molecules. The other pupils are the sun's rays. They all stand outside the 2 circles. They must try to reach the earth to touch it with a hand or foot and then escape through the atmosphere without being touched by a CO_2 molecule. Rays that are touched by the CO_2 must stay standing still in the atmosphere. Rays can only try to reach the earth once. Rays that have escaped back into space then make a circle around the atmosphere.

Explain to the pupils what has just happened. Rays trapped by the CO_2 molecules represent the amount of heat energy trapped in the atmosphere, also known as the greenhouse effect.

Round 1

Remove any sun's rays (pupils) that were trapped in the test round. Increase or decrease the amount of CO_2 in the atmosphere by using the action cards as follows:

- take an action card from the envelope, starting with a card that adds CO_2 and ask a pupil to read it
- add the written number of CO_2 molecules (e.g. 3 pupils) to the atmosphere and play the game again

Round 2 etc.

Repeat the game picking an action card out of the envelope after each round.

At the end of the game ask the students to describe what just happened. As the CO_2 increases more of the sun's heat gets trapped and the temperature of the Earth goes up. Deforestation and burning fossil fuels are two of the main ways people increase the amount of CO_2 in the atmosphere. When people reduce the amount of CO_2 the greenhouse effect is less strong.

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Climate Change Chaos Action Cards		
People cut down trees Trees remove CO_2 from the atmosphere during photosynthesis. Fewer trees mean more CO_2 **add 4 CO_2 molecules**	**People drive cars** Every litre of fuel puts 2.3 grams of CO_2 into the atmosphere. There are at least 500 million cars on Earth **add 2 CO_2 molecules**	**People burn rubbish** Burning waste puts CO_2 into the atmosphere along with other pollutants **add 2 CO_2 molecules**
People travel in aeroplanes Aeroplanes produce more CO_2 than cars. More and more people travel by plane **add 3 CO_2 molecules**	**People travel by bus not car** A full bus is more efficient than a car with one or two people in it. This means less CO_2 in the atmosphere **remove 2 CO_2 molecules**	**People recycle glass metal paper etc.** Recycling saves energy, reducing our use of fossil fuels. This means less CO_2 in the atmosphere **remove 2 CO_2 molecules**
People create energy efficient technology If energy is used more efficiently less CO_2 is released into the atmosphere **remove 4 CO_2 molecules**		

Two cards are blank for you to add your own scenarios

(for a simple guide to climate change for teachers see our KS2 resources - http://www.sizeofwales.org.uk/files/uploads/KS2-resources-2016/1%20Busy%20Teacher's%20Guide%20to%20Climate%20Change.pdf)