

Teachers Notes: 5th/6th Class.

SESE: Science:

Strand: Environmental Awareness and Care

Strand Unit: Caring for The Environment

Topic: Global Warming.

Objectives:

By the end of this lesson children will be enabled to:

- Explain the meaning of the terms *Global Warming*, *Climate Change* and *Greenhouse Gases*.
- Know the factors that contribute to *Global Warming*.
- Discuss the effects of *Global warming* on different sectors.
- Discuss the ways we can work together to prevent the effects of *Global Warming*.
- Come to appreciate the need to protect environments for present and future inhabitants.

Discussion:

Prior to introducing the class to the topic, elicit prior knowledge on their understanding of what *Global Warming* is.

Lesson Content:

The online PowerPoint contains the following text:

- *Global Warming* is when the average temperature of the Earth's surface increases. It is the opposite of what happened during *The Ice Age*.

Climate Change.

- Climate is what the weather is usually like in an area. (i.e. what the typical seasonal weather is, a wet winter, a warm summer...)
- Changes have occurred in our climates that are natural, e.g. *The Ice Age*, but some are man made.

- Our climate had been constantly changing over its 5 billion year history. Sometimes the oceans rose so much that they covered all our land, during the ice age our waterways froze over.
- It is the most recent changes which scientists believe we are causing, are the most worrying.
- Many scientists think that the average temperature of the world will go up between 1°C and 3.5°C over the next one hundred years.

Why is the temperature increasing?

- Most scientists believe our actions are responsible for *Global Warming*.

• Can you think of any reason why the temperature of our planet is increasing at an alarming rate?

Greenhouse Gases

- Things we do like using electricity, driving cars or cutting down & burning trees, all put extra greenhouse gases in the air. These gases cause an increase in the temperature of our air.
- Discuss the on line photographs. What damage do you think they are causing to our climate?
- Factories.
- Deforestation
- Air Travel.
- Transportation of Goods.
- Electricity Usage
- Wasteful Packaging.
- Aerosols.
- Landfill.

The Greenhouse Effect.

- We need a certain amount of gas to keep our planet warm enough to live on.
- However online look at the photographs which show causes of extra greenhouse gases being released into our atmosphere.
- Like the air in a car heats up on a hot day, the sun heats these gases up too. This leads to an increase in the temperature of our planet.

How do scientists monitor the situation?

- Weather stations constantly measure, record and examine the

temperature of the Earth's surface and note changes which are occurring.

- Satellites sent into space send back data to Earth.
- Geologists study rocks and sediments on the ground and under water to look at changes that are occurring in them.

What does this mean for Planet Earth?

- An increase in the Earth's Temperature will have an effect.

POSITIVE EFFECTS:

- Warmer climates for those that live in cold areas.
- Fewer droughts in very hot climates enabling more crops to be grown.
- Less need to travel in search of a sunny holiday...

NEGATIVE EFFECTS.

- There will be effects on:
- Humans.
- Plants and Animals
- Habitats.

Effects on Humans.

- Humans: Severe exposure to the rays of the sun is known to cause problems, skin cancer & eye damage for example.
- The effect will depend on what area of the world you live in and what resources you have to cope with change.
- The sad thing is poorer people in poorer countries will have less resources, yet these are the

countries who have contributed the least to global warming.

Effects on Plant and Animal Life.

- All of our plants and animals have grown and adapted (changed) to suit the habitat they live on. If these habitats changed quickly, many of our plants and animals could become extinct as they would not be able to survive in their new climate.

Sea Levels.

- Melting ice caps and glaciers will lead to a rise in our sea level.
- This will have an effect on both the natural and man made elements of our environment.
- Scenes like these will become common place as animals are removed from their natural habitats
- Coastal flooding will lead to salt water escaping onto our land. This will have a devastating effect on plants and animals in that area and may also affect the quality of our drinking water.
- Also drought could become more widespread, leading to famine in countries that cannot grow enough crops to feed their citizens.

So What Can We Do?

- You may think that one person might not help but:
- How Can We Help?
Have you any ideas?

1. Get Talking.

- "There is a time to speak and a time to be silent."

2. Learn.

- "The more that you read, the more things you will know. The more you learn the more places you'll go."

3. Switch It Off.

- *The creation of a thousand forests is in one acorn.*

4. Transport.

- TEAM = Together Everyone Achieves More.

5. Plant a Tree.

- Planting a tree will take CO₂ (Carbon Dioxide) out of the air, thus reducing our Greenhouse Gases.

6. Shop Locally.

- "Organic Farming. Good for nature, good for me."

7. The Five R'S.

- "Refuse extra packaging, Repair items where possible, Reduce the amount of items you buy, Reuse items when you can and Recycle where possible"

8. Energy Rating

- Choose A Rating When available

9. Buy Recycled Products.

- “The Choice Is Yours- - Save It Or Waste It ”

10. Recycle Your Old Phone.

- “The least movement is of importance to all nature. The entire ocean is affected by a pebble” Start today: Every old phone you recycle with Jack and Jill is like a pebble.

Each one makes a huge difference.

Global Warming

- Finally, how we all choose to use energy is important.
- Enforce to the class that their school becoming involved in recycling old phones with Jack and Jill is one important step we have all taken to combat Global Warming.