



MANZI'S NEWS



A Newsletter for Manzi's Water Wise Club Members

March 2016

Our Impact

Hello my dearest Water Wise Friends.

It is good to speak to you all again. I hope that you enjoyed Wetlands Month (or the month of Love).

This months topic is all about taking responsibility and we will be taking a closer look at **"The impact of degradation on society and the environment"**.

WOW! WHAT? Those are some seriously advanced words! What do they mean? Well that's why I am here...to tell you all about it.

It's actually quite simple really! It happens when planet Earth's natural resources (soil, water, air, etc.) are being destroyed. This means the environment is in danger of losing species and there is pollution of the air that we breathe, the water that we drink and the soil where we get our food from. Having more people on Earth (population growth) is also a factor.

Environmental degradation is one of the largest threats in the world today!

Remember that the environment includes all living and non-living things.

Some animals and plants rely on large areas (called biomes) to help provide food, living space and other natural resources such as water. These animals and plants are called area specific and if any of the things they rely on to survive is taken away or damaged, we may loose them.



Cape Fynbos Biome
Picture courtesy of:
www.wikipedia.org



But what causes Environmental Degradation?

Well, there are a list of factors:

- 1. LAND DISTURBANCE:** This happens when land or soil is disturbed and allows invasive species (such as weeds) to take over an area where they weren't before. Animals that lived there for all their lives might not be able to survive on the invasive plants.
- 2. POLLUTION:** Air pollution pollutes the air that we breathe and that other organisms rely on. This can lead to health problems. Water pollution affects the quality of water that we drink and affects the environment in which other organisms live. The destruction of the Earth's surface as a result of human activities is known as land pollution. Noise pollution from human activities can cause ear damage in humans and animals. Animals also move away from their biomes because of noise pollution.
- 3. OVERPOPULATION:** The number of people in the world (world population) is growing year by year. This puts a lot of stress on the Earth's natural resources.
- 4. LANDFILLS:** Landfills pollute the environment and destroy the beauty of surrounding areas. As the human population increases, so does the demand for things like food, clothing, water and the packaging that goes with certain items. This means that there will be more items that will end up on landfills.
- 5. DEFORESTATION:** To put it simply, deforestation is the cutting down of trees to make space for homes, schools, malls and industries. Rapid population growth means more deforestation as more space is required. Areas once filled with trees are also being chopped down for the timber industry and for farming.
- 6. NATURAL CAUSES:** Natural causes can be droughts, tidal waves, floods, storms, wildfires and earthquakes. Such events can completely destroy natural biomes, for example, the Cape wildfires earlier this year.

Earth itself causes environmental degradation, but most of the time, the things that people do cause a lot of harm to the environment and increase damage to the environment.

This can affect human health, create loss of biodiversity, contribute to ozone layer depletion and can cause economic problems.

A very important topic that is "buzzing" across the world at the moment is

"CLIMATE CHANGE".

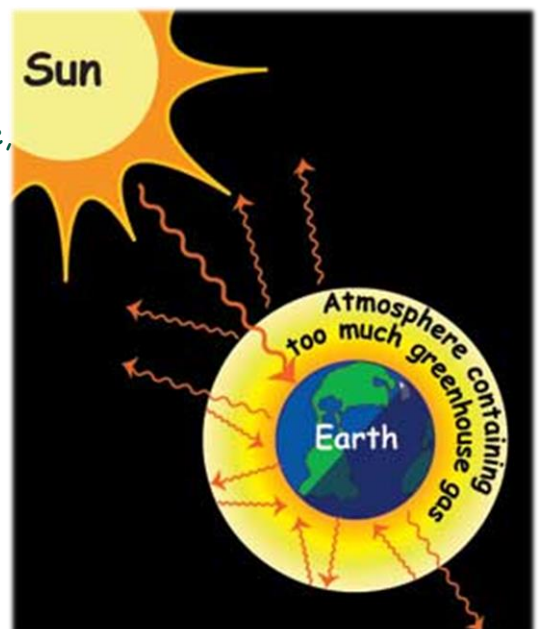
- What causes climate change?
- What is its impact on development?
- What can we do to reduce the impact of it? and
- How can we adapt to it?

Climate change can be described as a long-term change in the Earth's climate, especially a change in the Earth's average atmospheric temperature. Have you noticed that over the past few years that our summers and winters are getting warmer? I definitely have!

Most scientists agree that the main cause of climate change is human behaviour. More greenhouse gases are being produced, such as the burning of fossil fuels like coal. This is leading to the "greenhouse effect".

The greenhouse effect can be explained as follows:

1. When the sun's rays enter the Earth's atmosphere, they warm up the surface of the Earth.
2. Light energy that reflects back off the Earth's surface (like the sun reflecting off of a mirror), is not able to escape back through the Earth's atmosphere because of the increase in the amount of greenhouse gases.
3. This light energy from the sun is then trapped underneath our atmosphere and increases the temperature.



Picture courtesy of www.climatekids.nasa.gov

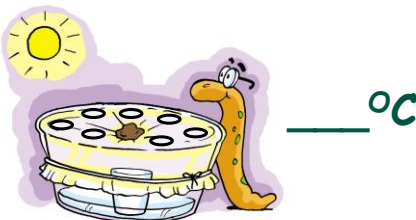
Activity: Building and Experimenting with a Greenhouse

What you will need:

- * 3 glass bowls
- * 3 stones
- * 3 thermometers
- * 3 elastic bands
- * 3 small glasses (optional if you would like to see how the water cycle works)
- * sunlight
- * 3 pieces of plastic wrap
- * 1 straw

What must I do?

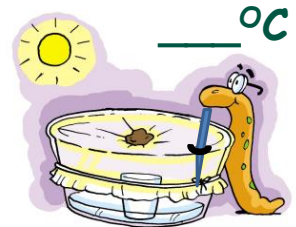
Set up your experiment as shown below. Place a thermometer in each bowl. Record the temperatures in the 3 different bowls over a period of 15 minutes.



Bowl 1: Make a few holes in the plastic. This is Earth in its natural state.



Bowl 2: This bowl has no holes and shows what happens when there are greenhouse gases and the heat cannot escape.



Bowl 3: Greenhouse gases are trapping heat and by blowing carbon dioxide into the bowl from our lungs, we are speeding up the greenhouse effect. This is what is happening to Earth.

Your results should show that bowl 2 is warmer than bowl 1, and bowl 3 is warmer than bowl 2. You have just demonstrated how the greenhouse effect works.

What can we do about Climate Change?

People need to start changing their behaviour and lower the amount of greenhouse gases from various sources entering our atmosphere (Climate Mitigation). You and I can do this by using less electricity; riding a bike instead of using a car; using less water (also uses electricity); buying less items in the shops; reusing our waste, etc. If humans cannot change their behaviour and reduce the greenhouse effect, we will have to adapt to a changing environment (Climate Adaptation).

My dear friends, I hope that through reading this newsletter you have come to understand that if we respect and conserve all our natural resources, we are respecting and conserving our planet Earth. Let us all work together.

Love
MANZI

