Cosmo School

Class: Seven
Subject: English 1st paper
Date: 30/9/20
Teacher: Tania Ahmed

Lecture

Unit-9 Lesson 1: Mother Earth in crisis

Look at the following pictures:

These are the pictures caused by climate change because of global warming.

Choose a caption for each picture:

Drought in north Bengal

Wildlife at risk of extinction

Stronger cyclone and tornados

Rising sea-level at Cox's Bazar

Flooding of rivers in monsoon

Higher temperature

Lesson-2: The Earth heating up!

The sun is getting hotter. It is also very old. It is about 4,500 million old! The Earth's climate has been changing for all those years. But the climate is heating up much now. Humans and their machines are responsible for the rapid heating up of the Earth.

Almost all use fuels such as oil, gas or coal. All of them are pollufing environment. Much of this pollution contains gas called carbon dioxide. It is this which pollutes the atmosphere,

True or false. If false, give the correct information.

l) The Earth's climate has been changing for 4,500 million years.

2) Only machines are responsible for the Earths' getting hotter.

3) Coal is one kind of fuel.

4) Carbon dioxide gas pollutes the environment.

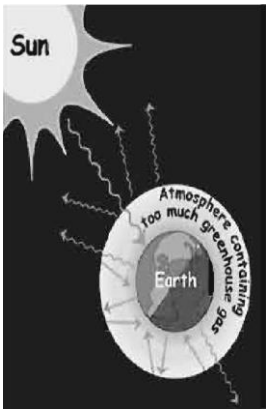
5) Now the sun is not as hot as it was ten years ago.

Lesson 3 : The greenhouse effect

Samina and Arif read about greenhouse effect in the booklet. Read the passage to know what Samina and Arif have learnt so far.

A greenhouse is a house made of glass. It has glass walls and a glass roof. People grow vegetables, flowers and other plants in them. A greenhouse stays warm inside, even during winter. During the daylight hours, a

greenhouse gets warmer and warmer and stays pretty warm at night too. This is because the heat received from the sun is frapped inside the greenhouse by the glass.



The Earth is also like a greenhouse. During the day Earth's surface warms up in the sunlight. At night, the surface cools, releasing the heat back into the air. But some of the heat is trapped by gases like carbon dioxide in the atmosphere. These gases, called greenhouse gases, work like the glass walls and the Sun roof and keep the Earth warm. This is global warming and it is making the Earth a dangerous planet.

Unfortunately, we are making the earth too hot. We are using oil, gas and coal for running cars, buses, frains, planes, power stations and so on. These fuels have carbon in them. This carbon and other gases trap the heat in the atmosphere and do not allow the earth to cool down. As a result, the Earth gets hotter.

Important points to note

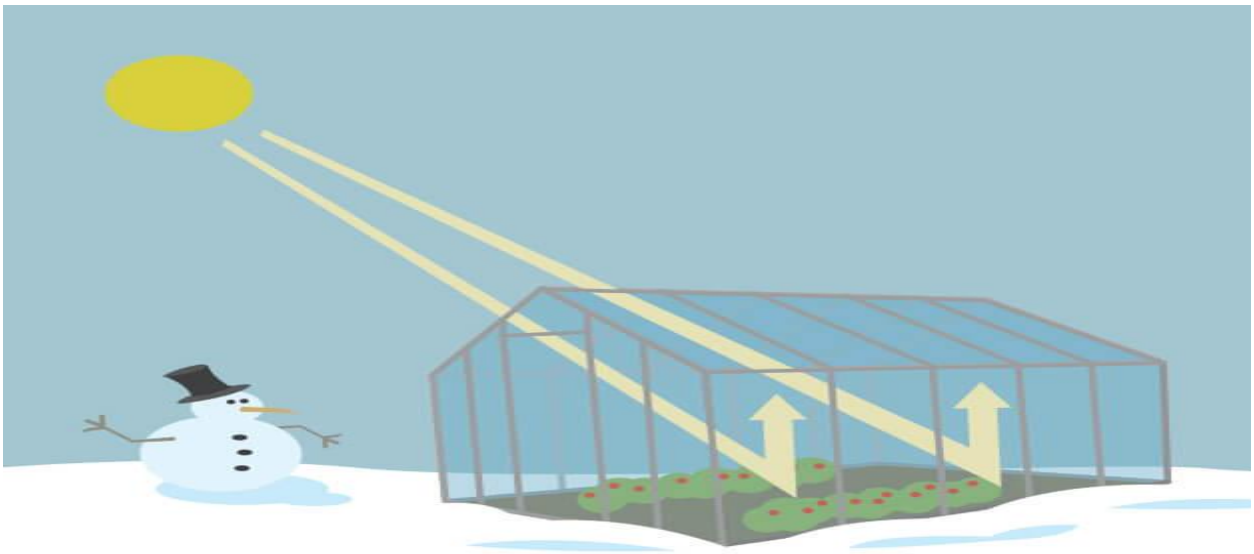
What is greenhouse effect?

The greenhouse effect is a process that occurs when gases in Earth's atmosphere trap the Sun's heat. This process makes Earth much warmer than it would be without an atmosphere. The greenhouse effect is one of the things that makes Earth a comfortable place to live.

How does the greenhouse effect work?

As you might expect from the name, the greenhouse effect works … like a greenhouse! A greenhouse is a building with glass walls and a glass roof. Greenhouses are used to grow plants, such as tomatoes and tropical flowers.

A greenhouse stays warm inside, even during the winter. In the daytime, sunlight shines into the greenhouse and warms the plants and air inside. At nighttime, it's colder outside, but the greenhouse stays pretty warm inside. That's because the glass walls of the greenhouse trap the Sun's heat.

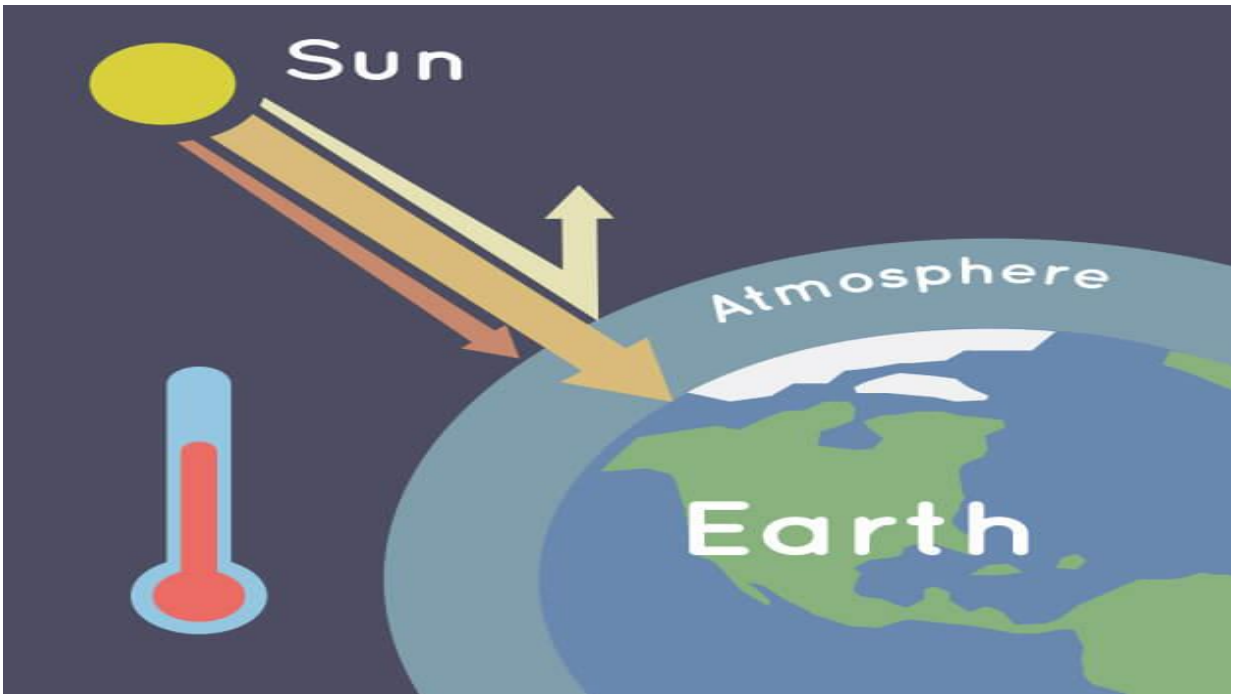


A greenhouse captures heat from the Sun during the day. Its glass walls trap the Sun's heat, which keeps plants inside the greenhouse warm — even on cold nights. Credit: NASA/JPL-Caltech

The greenhouse effect works much the same way on Earth. Gases in the atmosphere, such as carbon dioxide, trap heat just like the glass roof of a greenhouse. These heat-trapping gases are called greenhouse gases.

During the day, the Sun shines through the atmosphere. Earth's surface warms up in the sunlight. At night, Earth's surface cools, releasing heat back into the air. But some of

the heat is trapped by the greenhouse gases in the atmosphere. That's what keeps our Earth a warm and cozy 58 degrees Fahrenheit (14 degrees Celsius), on average.



Earth's atmosphere traps some of the Sun's heat, preventing it from escaping back into space at night. Credit: NASA/JPL-Caltech

How are humans impacting the greenhouse effect?

Human activities are changing Earth's natural greenhouse effect. Burning fossil fuels like coal and oil puts more carbon dioxide into our atmosphere.

NASA has observed increases in the amount of carbon dioxide and some other greenhouse gases in our atmosphere. Too much of these greenhouse gases can cause Earth's atmosphere to trap more and more heat. This causes Earth to warm up.

What is Climate Change?

Climate change refers to significant, long-term changes in the global climate.

The global climate is the connected system of sun, earth and oceans, wind, rain and snow, forests, deserts and savannas, and everything people do, too. The climate of a place, say New York, can be described as its rainfall, changing temperatures during the year and so on.

But the global climate is more than the “average” of the climates of specific places.

What is Global Warming?

Global warming is the slow increase in the average temperature of the earth's atmosphere because an increased amount of the energy (heat) striking the earth from the sun is being trapped in the atmosphere and not radiated out into space.

The earth's atmosphere has always acted like a greenhouse to capture the sun's heat, ensuring that the earth has enjoyed temperatures that permitted the emergence of life forms as we know them, including humans.

Without our atmospheric greenhouse the earth would be very cold. Global warming, however, is the equivalent of a greenhouse with high efficiency reflective glass installed the wrong way around.

What are the most important greenhouse gases(GHGs)?

CO2 or carbon dioxide

Methane

Nitrous oxide

Fluorinated gases

What are the most important sources of GHGs and black carbon?

Fossil fuel and related uses of coal and petroleum are the most important sources of GHGs and black carbon (power generation, industry, transportation, buildings).

Agriculture is the second most important source (animals – cows and pigs), feed production, chemical intensive food production, and flooded paddy rice production, as well as deforestation driven by the desire to expand cultivated areas.

Worksheet

a) What is a greenhouse?
b) When does a greenhouse stay warm?
c) Why does the earth turn into a dangerous planet?
d) How are we making the earth hot?
e) “The Earth is also like a greenhouse." Is it special? Explain in brief.
f) When does the surface become cool?
g) What can people do in a greenhouse?
h) What happens for the earth at daytime and night?
i) What is Climate Change?
j) What is greenhouse effect?
k) What are the most important greenhouse gases(GHGs)?
l) What are the most important sources of GHGs and black carbon?