

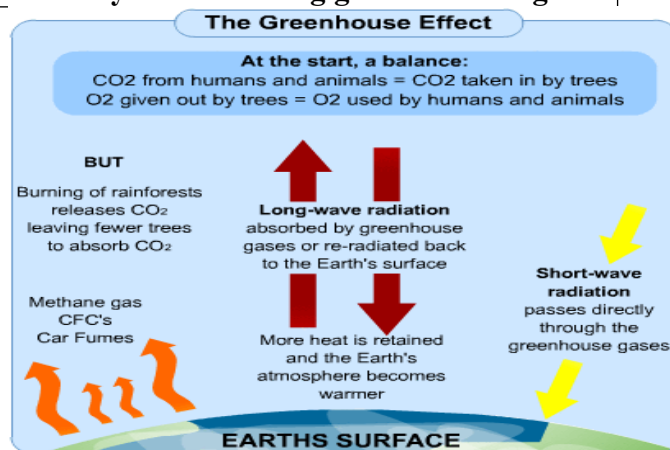
**WORKSHEET 24**School: Ba Sangam CollegeYear: 11Subject: Chemistry

Name: _____

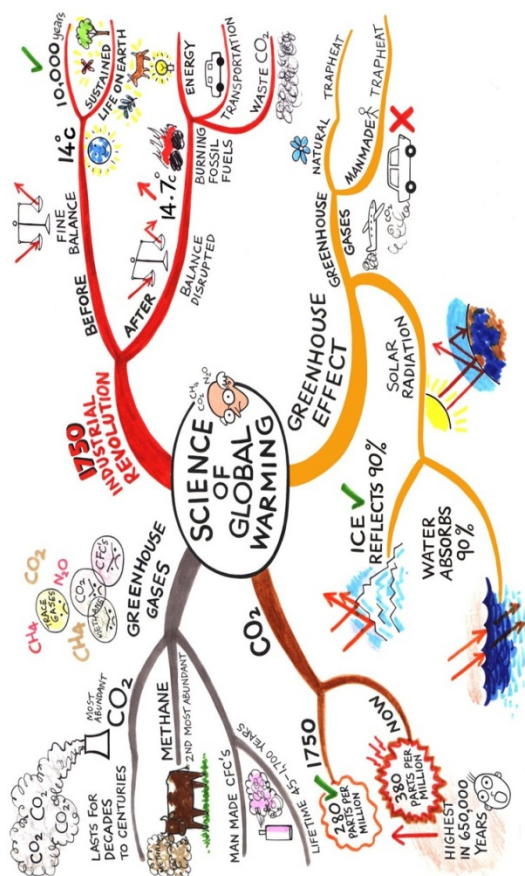
Strand	5 – Environmental Chemistry
Sub strand	5.2 -Water and Water Pollution
Content Learning Outcome	-Examine and explain the impacts of global warming on the local resources and human livelihood. -Explore and present means and ways of combating global warming.

Consequences of Global Warming

- Higher temperatures could lead to increased droughts and wildfires, heavier rainfall and a greater number of more powerful and dangerous hurricanes (Category 4 and 5 hurricanes).
- More flooding from storm surges, flash flooding and river flooding.
- Rising temperatures damage coral reefs
- Melting of the habitats of polar bears and Antarctic penguins.
- It is predicted that the Arctic summers could be ice-free by 2040 – due to the melting of glaciers and ice caps.
- Sea levels could rise as much as 23 inches by 2100 if current warming patterns continue. Global sea level has already risen by 4 to 8 inches in the past century.
- More deadly heat waves.
- Affect the types of crops grown in different parts of the world.
- Hotter weather also enables deadly mosquitoes (e.g dengue fever) to travel greater distances.
- Carbon dioxide in the air increases the risk of asthma and allergies.
- Increase in number of infectious disease like malaria and dengue fever.
- More food and waterborne illness outbreaks. During heavy rainfall pathogens from contaminated soils, farms, and streets are washed into drinking water sources.

**Negative Impacts of global Warming**

- **Rise in 'killer' heat waves during warmer seasons.**
- **Rise in Sea levels** - inundation of fresh water marshlands, low-lying cities, and islands with seawater.
- **Changes in rainfall patterns** - droughts and fires in some areas, flooding in other areas.
- **Extreme weather patterns**- more hurricanes and super-storms.
- **Melting of the ice caps** - loss of habitat near the poles.
- **Melting glaciers** - significant melting of old glaciers
- **Ecosystem impacts** - massive extinction of species due to habitat loss.
- **Increase in pests and disease** -Spread of vector borne diseases such as malaria to warmer regions.
- **Bleaching of Coral Reefs due to acidification** - One third of coral reefs now disappeared.



Question/Answers

1. Climate change refers to the global long term shifts in the earth's weather pattern and average temperatures. These changes are primarily due to human activities.

In your essay, you are required to:

- Describe **four** human activities which lead to climate change. (4 marks)

-State **two** effects of climate change and explain how you can help to reduce these effects. (4 marks)

Four human activities:

- **Burning of fossil fuels such as oil and coal which emits greenhouse gases notably carbon dioxide into the atmosphere.**
- **Other human activities include agricultural (releases nitrogen oxide due to excess use of fertilizers)**
- **Deforestation (releases carbon dioxide).**
- **Use of products that release CFC**

Two effects:

- **Impact on freshwater: flooding- leads to changes in rainfall weather patterns resulting in flooding. Salt intrusion/ and drought.**
- **Impact on agriculture: loss of soil fertility/ food prone to diseases/decrease in yield production/ reduces amount of land for**

cultivation/ ocean acidification destroys many organisms, bleaching of corals, migration of marine organisms.

- Impact on biodiversity: habitat modification and destruction

- Impact on health: threat on diet and spread of diseases.

Reduce

- Reduce the burning of fossil fuels by conserving the amount of energy to be use**
- Use alternative energy sources such as wind, water and solar energy.**
- Reduce the use of paper- recycle it/ excessive fertilizers**
- Rain water storage**

2. Increased emission of carbon dioxide and other greenhouse gases has been the main cause of Global warming.

(i) Define greenhouse gas.

A greenhouse gas traps heat in the atmosphere exaples water vapour, carbondioxide, methane, sulphur dioxide.

(ii) Describe how increasing concentration of greenhouse gases in the atmosphere results in global warming. The increased greenhouse gases increases the temperature of the Earth by trapping heat in our atmosphere. This keeps the

temperature of the Earth higher leading to global warming. The more the concentration of greenhouse gases the more the heat trapped.

(iii) Explain **one** way of reducing global warming.

- **Reduce, Reuse, Recycle**- buying products with minimal packaging will help to reduce waste. By recycling half of your household waste

- **Use Less Heat and Air Conditioning**- releases CFCs.

- **Drive Less and Drive Smart**-less driving means fewer emissions of harmful gases

- **Buy Energy-Efficient Products**- which consumes less energy

- **Use the "Off" Switch**-save electricity and reduce global warming by turning off lights

- **Plant a Tree** - trees absorb carbon dioxide and give off oxygen. A single tree will absorb approximately one ton of carbon dioxide during its lifetime.

- **Encourage Others to Conserve** Share information about recycling and energy conservation with your friends, neighbors and co-workers, and take opportunities to encourage public officials to establish programs and policies that are good for the environment.

Exercise

1. Which of the following potential environmental problems is not linked to increased

amount of carbon dioxide in the atmosphere?

- A. Ozone depletion
- B. Rise in sea levels
- C. Ocean acidification
- D. Warmer temperatures

2. Which of the following gas forms the greenhouse gas blanket?

- A. Chlorine
- B. Hydrogen
- C. Ozone gas
- D. Water vapour

3. State one effect of acid rain on the environment

4. Scientists who study the atmosphere said that adding too much carbon dioxide to the air may cause the earth to become warmer. This is called the enhanced greenhouse effect.

(i) Give one human activity which increases the amount of carbon dioxide in air. (1 mark)

(ii) Explain how carbon dioxide in air makes the earth warmer. (2 marks)
