Answer all the questions below then check your answers

1. Which gases are mainly responsible for causing global warming?

b. How are these two gases released into the atmosphere?

2. Which of the following gases is the most significant contributor to the greenhouse effect?

a) Nitrogen

b) Oxygen

c) Carbon Dioxide

d) Neon

3. What human activity is the largest source of greenhouse gas emissions?

a) Agriculture

b) Deforestation

c) Industrial processes

d) Burning fossil fuels

4. Which of the following is NOT a consequence of climate change?

a) Rising sea levels

b) Decreased ocean acidity

c) Increased frequency of extreme weather events

d) Melting polar ice caps

5. Fill in the gap to complete the sentence below:

The main greenhouse gases are carbon dioxide, methane, nitrous oxide, and _____.

b. Deforestation contributes to climate change because trees absorb _____ _____ from the atmosphere.

c. Which of the following is NOT a greenhouse gas?

(a) Methane (CH_4)

(b) Carbon dioxide (CO_2)

(c) Nitrogen (N_2)

(d) Water vapour (H_2O)

6. Match the greenhouse gas to its primary source:

Greenhouse Gas	Primary Source
Carbon Dioxide	Agriculture
Methane	Burning fossil fuels
Nitrous Oxide	Industrial processes
Chlorofluorocarbons (CFCs)	Refrigerants and aerosols

7. Explain how these greenhouse gases are able to raise the temperature on our planet.

d. Why might a growing world population lead to an increase in global warming?

8. What are the likely effects to our climate of a warmer world due to the greenhouse effect?

9. What can be done to reduce the amount of greenhouse gases being emitted and reduce the effects of climate change?

Answers

1. Which gases are mainly responsible for causing global warming?

Carbon dioxide, methane and water vapour

b. How are these two gases released into the atmosphere?

Carbon dioxide is released by burning of fossil fuels, coal, oil and gas.

Methane is released by:

- Increase in farming with cows and other ruminant animals which release methane by farting and burping.
- Paddy fields used to grow rice also release large amounts of methane gas.
- Extracting oil and gas from underground.
- Rotting of rubbish in landfill sites

2. Which of the following gases is the most significant contributor to the greenhouse effect?

a) Nitrogen

b) Oxygen

c) Carbon Dioxide

d) Neon

Answer: c) Carbon Dioxide

3. What human activity is the largest source of greenhouse gas emissions?

a) Agriculture

b) Deforestation

c) Industrial processes

d) Burning fossil fuels

Answer: d) Burning fossil fuels

4. Which of the following is NOT a consequence of climate change?

a) Rising sea levels

b) Decreased ocean acidity

c) Increased frequency of extreme weather events

d) Melting polar ice caps

Answer: b) Decreased ocean acidity

5. Fill in the gap to complete the sentence below:

The main greenhouse gases are carbon dioxide, methane, nitrous oxide, and _____.

Answer: water vapour

b. Deforestation contributes to climate change because trees absorb _____ _____ from the atmosphere.

Answer: carbon dioxide

c. Which of the following is NOT a greenhouse gas?

(a) Methane (CH_4)

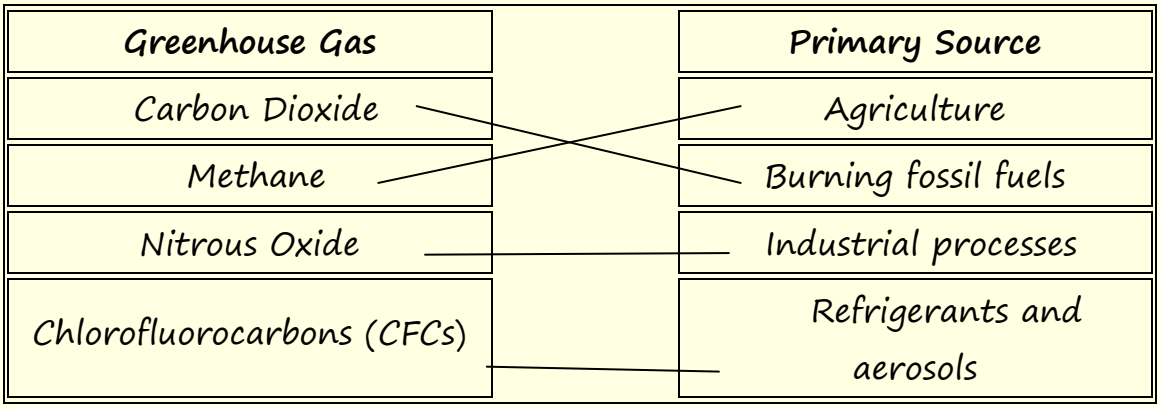
(b) Carbon dioxide (CO_2)

(c) Nitrogen (N_2)

(d) Water vapour (H_2O)

Answer: (c) Nitrogen (N_2)

7. Match the greenhouse gas to its primary source:



7. Explain how these greenhouse gases are able to raise the temperature on our planet.

Short wave infrared radiation (heat) from the sun is able to pass through the atmosphere and warm the land and sea. The hot land and emits infrared radiation of a longer wavelength that carbon dioxide and methane gases trap. The result is that some of the heat from the sun is trapped in the atmosphere and this warms the planet.

d. Why might a growing world population lead to an increase in global warming?

Increased demand for energy, transport and housing will result in burning more fossil fuels. Also more food will need to be produced and farming is a major contributor to greenhouse gas emissions. Also more land will have to be cleared to produce more food and more house /industry. Also more people means more rubbish and waste, this will also release more greenhouse gases.

8. What are the likely effects to our climate of a warmer world due to the greenhouse effect?

- More extreme weather patterns. More frequent storms/droughts/flooding.
- Loss of habitat and biodiversity as many plants and animals will be unable to adapt to the new climate. Both on land and at sea.
- Melting ice-caps will result in a rise in sea levels which will not only cause major flooding but also widespread coastal erosion.
- Rising sea temperature and pH levels in the sea due to extra CO_2 dissolving will be devastating for many marine ecosystems e.g corals and many cold water ecosystems.

9. What can be done to reduce the amount of greenhouse gases being emitted and reduce the effects of climate change?

- Reduce our reliance on fossil fuels by use more renewable energy sources e.g. wind, wave and solar to meet our energy demands.
- Reduce unnecessary journeys and use vehicles which emit less CO_2 or none at all.
- Use carbon capture and storage to catch and store much of the carbon dioxide produced by power stations and other heavy industries.
- Recycle materials to reduce what is sent to landfill, this will also save energy, land and resources as no new substances will have to be extracted from the earth.