A. Composition and Evolution of the Earth's Atmosphere – part 1 – Proportions of Gases and the Early Atmosphere

1. Name 4 gases in the Earth's atmosphere.
2. Give the proportions of gases in the Earth's atmosphere.
3. Why is evidence for the Earth's early atmosphere limited?
4. What gases are believed to have been released from volcanoes during the first billion years of the Earth's existence?
5. How did the oceans form?
6. Why did the amount of carbon dioxide in the earlier atmosphere decrease?
7. What gas in the current day atmosphere was not present in the atmosphere 4.6 billion years ago?

B. Composition and Evolution of the Earth's Atmosphere – part 2 – Changes in carbon dioxide and oxygen concentrations

1. What organisms increased the amount of oxygen in the Earth's atmosphere?
2. Write the balanced symbol equation for photosynthesis.
3. When did oxygen first start appearing in the atmosphere and which organism was responsible?
4. Other than photosynthesis what other factors decreased the level of carbon dioxide in the atmosphere?
5. Describe the main changes to the atmosphere over time and the likely causes of these changes.

C. Carbon dioxide and Methane as Greenhouse Gases – part 1 – Greenhouse Gases, Human Activity

1. Name 3 greenhouse gases.
2. What is the link between greenhouse gases and the temperature of the Earth?
3. Name human activities which increase the amount of carbon dioxide in the atmosphere.
4. Name human activities that increase the amount of methane in the atmosphere.
5. What do many scientists believe about human activities and the temperature of the Earth's atmosphere?
6. Why are there issues surrounding modelling human impact on climate change?

D. Carbon dioxide and Methane as Greenhouse Gases – part 2 – Global climate change, Carbon Footprint

1. What is a major cause of climate change?
2. Give three possible effects of climate change.
3. What is the Carbon Footprint?
4. How can a Carbon Footprint be reduced?

E. Common atmospheric pollutants and their sources.

1. What are the two main elements in most fuels?
2. What other potentially polluting element may be present in fossil fuels?
3. What gases may be released into the atmosphere when a fuel is burned?
4. Which two of these gases can lead to acid rain?
5. What else may be released, during combustion of fuels, to form particulates in the atmosphere?
6. Write the balanced symbol equation for the complete combustion of pentane C_5H_{12}.
7. Which two substances would be formed if this was an incomplete combustion reaction?
8. Describe the gas carbon monoxide.
9. Why is carbon monoxide difficult to detect?
10. What are two effects of sulfur dioxide in the atmosphere?
11. What are two effects of particulates in the atmosphere?