

Science: Section 3 - Homework

Combustion of Fossil Fuels

Carbon Dioxide

Carbon dioxide is produced when any hydrocarbon burns. It contributes to the greenhouse effect which in turn leads to global warming.

Carbon Monoxide

Carbon monoxide is a highly toxic gas produced by incomplete combustion. Incomplete combustion occurs when there is not enough oxygen present to burn the fuel correctly which leads to a dirty flame and the production of carbon monoxide. This can be produced in car engines, gas fires and boilers. You may have a carbon monoxide detector in your house.

Sulphur Dioxide

Sulphur is an impurity in fossil fuels so when they are burned SO_2 is produced. SO_2 dissolves in water to produce an acid. It contributes to the acid rain problem. Acid rain damages plants and speeds up the corrosion of iron structures and limestone buildings.

Nitrogen Oxides

Nitrogen is a very unreactive gas however, when a large spark is passed across it, it will break down and form nitrogen oxides. The spark from a spark plug in a petrol engine allows this to happen. (diesel engines don't have spark plugs so they don't produce this gas). This gas also contributes to acid rain.

On the previous page there is a lot of information on pollution. Complete the table below using the information given on the previous page.

Pollutant	Cause	Effect
Carbon Dioxide		
Carbon Monoxide		
Sulphur Dioxide		
Oxides of Nitrogen		

Complete the blanks in the sentences below using the wordbox.

Wordbox

acid toxic soot catalytic converters
dioxide poisonous oxygen unleaded hydrocarbon
gas incomplete nitrogen fuels

1. Carbon _____ is a pollutant _____ released into our atmosphere by burning _____ .
2. Carbon monoxide is a highly _____ pollutant gas. It is caused by _____ combustion, when there is not enough _____ gas present.
3. Cars cause a lot of pollution. The gases _____ dioxide and sulphur dioxide (which are _____) can be produced in car engines, and are the main causes of _____ rain.
4. To help reduce pollution, car exhausts are fitted with _____ _____ to reduce the harmful gas emissions. _____ petrol is also used to stop lead pollution.
5. When a _____ does not completely burn, harmful _____ particles are released.