## Combustion of fossil fuels

**Fossil fuels** are made of hydrocarbons, which contain lots of carbon. When they burn, the carbon combines with oxygen ($O_2$) to make carbon dioxide ($CO_2$), which is released into the **atmosphere**.



## Photosynthesis

Carbon dioxide ($CO_2$) from the **atmosphere** is taken up by **plants** whenever sunlight falls on their leaves. The plants use the carbon dioxide to build a sugar called glucose, which they use as food.



## Respiration

**Animals** *and* **plants** obtain energy by 'burning' carbon-containing molecules such as sugars in their food, releasing carbon dioxide ($CO_2$) into the **atmosphere**.



## Release from the ocean

Dissolved carbon dioxide ($CO_2$) comes out of solution in the **ocean** and into the **atmosphere** at the ocean's surface.



## Dying

When **plants** and **animals** die, their carbon content passes into **dead organisms**, and becomes available to organisms that will help them decompose.



## Absorption into the ocean

Carbon dioxide gas ($CO_2$) from the **atmosphere** dissolves into the surface waters of the **oceans**.



## Decomposition

Organisms called decomposers feed off **dead organisms** – and release carbon dioxide ($CO_2$) and methane ($CH_4$) into the **atmosphere**.



## Eating

The carbon present in **plants** is taken into **animals** when animals eat them.