



Knowledge Organiser—Year 4

How can we influence the future of our Planets?

Vocabulary

Atmosphere – a mixture of gases, such as nitrogen, oxygen, and carbon dioxide, that surrounds the Earth.

Weather – the current conditions of the atmosphere at a particular place and time. Some characteristics of weather are temperature, humidity, precipitation, cloudiness, wind, and atmospheric pressure. Weather conditions are temporary and change frequently.

Climate – the pattern of weather over a long period of time. Weather patterns for about 30 years can be used to describe the climate of a particular place.

Climate Change – a significant change in the climate over time.

Fossil Fuel – an energy-rich substance type of fuel that is created from dead plant and animal material trapped between layers of rock deep within the Earth.

Global Climate – the average climate of the entire Earth.

Greenhouse Gas – a natural or human-made gas that traps heat in the atmosphere. Examples of greenhouse gases include water vapour, carbon dioxide, methane, and ozone.

Carbon Dioxide – a colourless, odourless gas that is released from the burning of fossil fuels, such as coal, oil, and natural gas. Carbon dioxide is an example of a greenhouse gas.



Key facts

The "greenhouse effect" is the warming that happens when certain gases in the Earth's atmosphere trap heat. These gases let in light but keep heat from escaping, like the glass walls of a greenhouse, hence the name.

The concentration of carbon dioxide (CO₂) in our atmosphere, as of 2018, is the highest it has been in 3 million years.

2016 was the warmest year on record. NASA and NOAA data show that global averages in 2016 were 1.78 degrees F (0.99 degrees C) warmer than the mid-20th century average. Seventeen of the 18 warmest years have occurred since 2000.

Eleven percent of all global greenhouse gas emissions caused by humans are caused by deforestation — comparable to the emissions from all of the cars and trucks on the planet.

The Amazon is a carbon-storing powerhouse. In the Amazon, 1% of tree species sequester 50% of the region's carbon.

Eleven percent of the world's population is currently vulnerable to climate change impacts such as droughts, floods, heat waves, extreme weather events and sea-level rise.

Tropical forests are incredibly effective at storing carbon — providing at least 30% of action needed to prevent the worst climate change scenarios. Yet nature-based solutions only receive only 2% of all climate funding.

Conserving ecosystems is often more cost-effective than human-made interventions. In the Maldives, building a sea wall for coastal protection costs US\$ 2.2 billion. Even after 10 years of maintenance costs, it is still four times cheaper to preserve the natural reef.