

# Climate Change

Responsibility, Change, Consequence

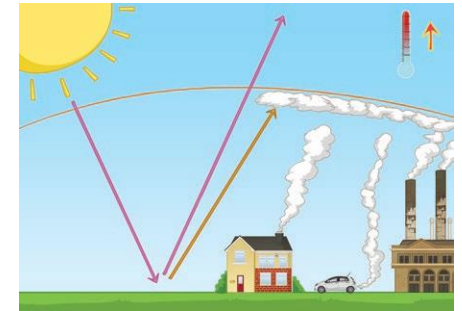
- Natural hazards pose major risks to people and property.
- Natural hazards are natural processes which cause damage, injury and death.
- Meteorology hazards are caused by the weather and climate.
- Different factors affect hazard risk including the severity of the natural hazard, the ability of a place to cope with the hazard and the likelihood that a hazard will occur.

## Climate Change

- Significant change in the Earth's climate over time is called climate change.

### Keywords

- adaptation, climate change, Positive, Negative, Climate zone
- Recycling
- Responsible

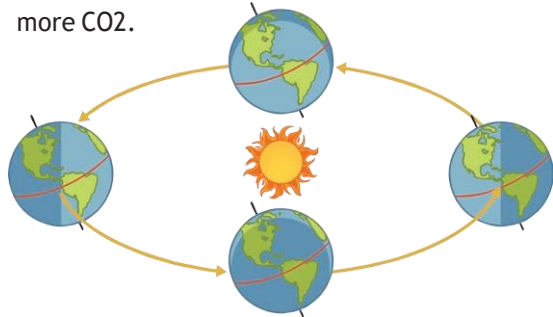


## Possible Causes of Climate Change

### Human Activities

Many scientists believe an enhanced greenhouse effect is responsible for global warming. They believe that various human activities have caused this including:

- Burning fossil fuels (coal, oil, gas) - this releases CO<sub>2</sub> (a greenhouse gas).
  - Farming - cattle and flooding rice paddy fields emit methane (a greenhouse gas).
- Deforestation - chopping down trees mean that they cannot absorb CO<sub>2</sub>. Burning trees also releases more CO<sub>2</sub>.



Climate is different to weather. Weather describes the day-to-day conditions in a place and it can change very quickly - one day it can be dry and sunny and the next day it may rain. Climate describes the average weather conditions in an entire region for a very long time - 30 years or more.

## Effects of Climate Change

### Effects on the Environment

- Melting glaciers and ice sheets could cause sea levels to rise.
- Melting sea ice is reducing polar habitats.
- Flooding of low-lying areas as a result of sea-levels rising. This could lead to species extinction due to habitat loss, e.g. the natural habitat of the tiger (mangrove forests of India and Bangladesh) are at risk of flooding.
- Precipitation patterns are changing which will affect crop yields.
- Increased temperatures could lead to species extinction, e.g. the orange-spotted filefish (which lives off the Japanese coast) faces extinction.

Increased sea temperatures cause coral bleaching, destroying their habitat.

### Effects on People

- More extreme weather, e.g. the 2017 hurricane season.
- Reduced crop yields could cause an increase in malnutrition and death.
- Melting ice could lead to the flooding of low-lying areas.
- Migration and overcrowding due to loss of land.
- Increased heat could cause death.
- New diseases/migration of diseases to new areas, e.g. Anopheles mosquitoes could move further into temperate latitudes, increasing the incidence of malaria.

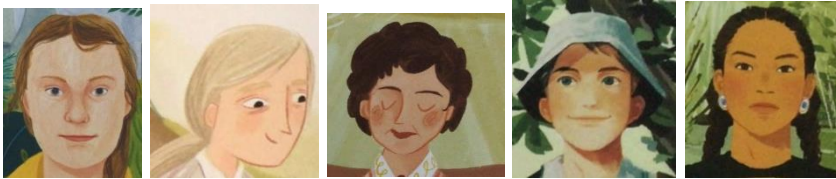
Water shortages could lead to political tensions, especially between countries competing for water.



### Examples of human actions on the environment.

'Climate Rebels' and focus in on several main activists:

David Attenborough, Greta Thunberg, Dr Jane Goodall, Rachael Carson, Autumn Pllie.



### What Is Our Carbon Footprint?

This is a way of describing the amount of carbon dioxide released into the atmosphere as a result of the activities of an individual person. Every person on the planet has a carbon footprint but some people and some countries have much larger carbon footprints than others.

- Children will be engaged with the idea of being environmentally responsible citizens.

### Managing Climate Change

#### Mitigation Strategies (Reduce the Causes of Climate Change)

- Alternative energy production - using renewable energy instead of fossil fuels.
- Carbon capture - Carbon Capture and Storage (CCS) traps, transports and stores CO<sub>2</sub>.
- Planting trees - increases the amount of CO<sub>2</sub> absorbed from the atmosphere.
- International agreements - the Kyoto Agreement was signed by most countries in the world. They agreed to monitor and reduce greenhouse gas emissions.

#### Adaptation (Responding to Change)

- Change agricultural systems - plant different crops/use biotechnology to ensure crop success, e.g. grapes can now be grown in Southern England.
- Managing water supply - water meters could discourage wasting water. Also, rainwater can be collected and used.

