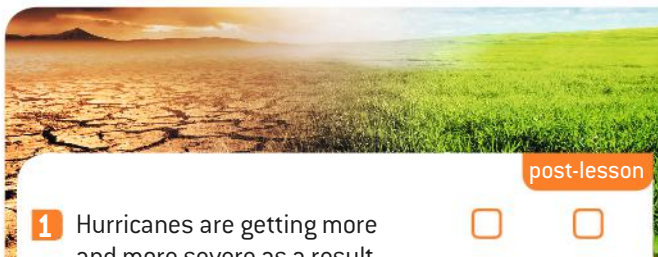


## TEXT AND TALK ON CLIMATE CHANGE

### PART 1 – TUNING IN

- 1 Is climate change affecting me? In pairs, discuss the following questions.
  - How would you define climate change?
  - Have you noticed any evidence of climate change in your everyday life?
- 2 **QUIZ.** Are these statements true (T) or false (F)? At the end of the lesson review the statements and see if your answers have changed.



post-lesson

- 1 Hurricanes are getting more and more severe as a result of global warming.
- 2 Climate change is expected to cause the extinction of 30% of current animal species.
- 3 Deforestation is one of the main contributors to climate change.
- 4 The climate crisis doesn't have a direct impact on human health.
- 5 Many of the changes we're seeing now are related to an increase in the industrial emissions of greenhouse gases like carbon dioxide.

- 3 **VOCABULARY** In pairs, match the following definitions with the underlined words in the quiz.
  - 1 The chemical compound, also known by its shorthand CO<sub>2</sub>, is considered the primary greenhouse gas and driver of climate change. \_\_\_\_\_
  - 2 The long-term alteration of temperature and normal weather patterns in a place. \_\_\_\_\_
  - 3 The removal of trees, transforming a wooded area into cleared land. \_\_\_\_\_
  - 4 Greenhouse gases released into the air that are produced by numerous activities, including burning fossil fuels. These gases cause heat to be trapped in the atmosphere, slowly increasing the Earth's temperature over time. \_\_\_\_\_
  - 5 An increase in the Earth's average surface temperature. \_\_\_\_\_

### PART 2 – FINDING OUT

## What is CLIMATE CHANGE?

🔊 153

Since the Industrial Revolution, there has been a significant increase in the amount of carbon dioxide and other greenhouse gases in the atmosphere. The main impact was the increase in the global temperature of the planet, which has risen 1.1 °C since this period, although it is estimated that, by the end of the present century, the thermometer could rise by 2.7 °C.

Global warming is caused by the greenhouse effect, a natural process by which the atmosphere retains some of the Sun's heat, allowing the Earth to maintain the necessary conditions to host life. Without the greenhouse effect, the average temperature of the planet would be -18 °C. The problem is that daily human activities maximise the greenhouse effect, causing the planet's temperature to increase even more.

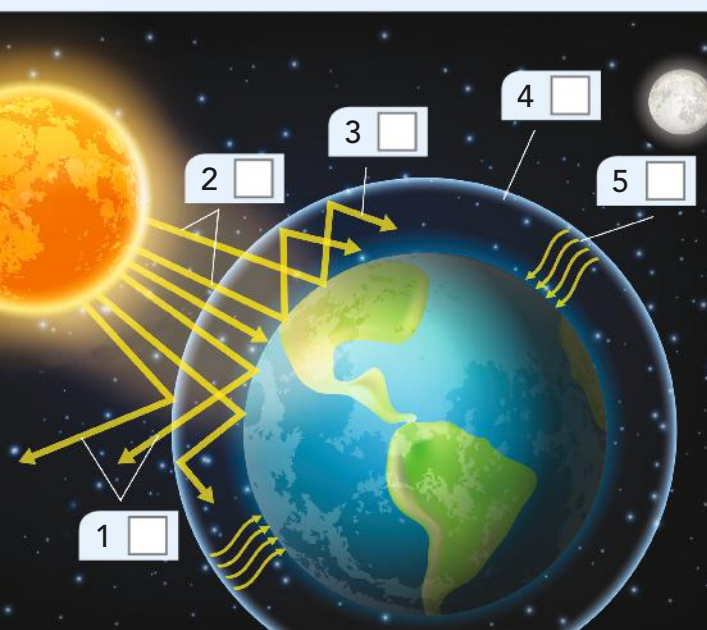
Climate change cannot be avoided. We can mitigate its effects and adapt to its consequences, i.e. we can fight it through the application of small and large scale measures that help to slow down climate change. These actions are known as climate change mitigation and adaptation measures.



## The Greenhouse Effect

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Global warming, which is changing our climate, is caused by <sup>1</sup>\_\_\_\_, which is not a bad thing in itself as it's what allows the Earth to stay warm enough for life to survive. When the Sun's rays hit the Earth's atmosphere and the surface of the Earth, <sup>2</sup>\_\_\_\_, absorbed by land, oceans, plants and other things. <sup>3</sup>\_\_\_\_ by clouds, snow fields and other reflective surfaces. But even the 70 percent that gets through doesn't stay on Earth forever – otherwise the Earth would become a blazing fireball. The Earth's oceans and land masses eventually radiate heat back out. Some of this heat makes it into space. <sup>4</sup>\_\_\_\_ when it hits certain things in the atmosphere, such as carbon dioxide, methane gas and water vapor. After these components in our atmosphere absorb all this heat, <sup>5</sup>\_\_\_\_, also in the form of heat. The heat that doesn't make it out through the Earth's atmosphere keeps the planet warmer than it is in outer space, because <sup>6</sup>\_\_\_\_. This is all part of the greenhouse effect that keeps the Earth warm. By far the largest component of greenhouse gas emissions is carbon dioxide, <sup>7</sup>\_\_\_\_. Most of this increase comes from the burning of fossil fuels – such as coal, petroleum and natural gas –, which release carbon dioxide into the atmosphere.



4 **153** Read and listen to the text about climate change. In pairs, ask and answer the questions.

- 1 When did humans first begin to cause climate change?
- 2 What is causing climate change?
- 3 Is global warming a cause or a consequence of climate change?

5 **154 TOWARDS INVALSI** Listen to an expert describing the effects of climate change. While listening, match the different impacts (1–7) with suitable titles to describe them (A–I). There are two extra titles.

- |                                    |                          |
|------------------------------------|--------------------------|
| A Changing seasons                 | <input type="checkbox"/> |
| B Melting ice and rising seas      | <input type="checkbox"/> |
| C Disruption to food supplies      | <input type="checkbox"/> |
| D Change in ecosystems             | <input type="checkbox"/> |
| E Destruction of marine ecosystems | <input type="checkbox"/> |
| F Risks for wildlife               | <input type="checkbox"/> |
| G Massive migrations               | <input type="checkbox"/> |
| H Risks for human health           | <input type="checkbox"/> |
| I Extreme weather phenomena        | <input type="checkbox"/> |

6 **155 TOWARDS INVALSI** Read the explanation of the greenhouse effect. Some parts of the text have been removed. Fill in the blanks (1–7) with the phrases provided (A–H). There is one extra phrase. Then listen and check.

- |   |
|---|
| A the other 30 percent is reflected into space                                    |
| B more energy is coming in through the atmosphere than is going out               |
| C an increase in the greenhouse effect  |
| D they emit energy  |
| E approximately 70 percent of the energy stays on the planet                      |
| F the Earth gets warmer and warmer  |
| G the rest of it ends up getting absorbed   |
| H which has exponentially increased in the atmosphere since the preindustrial age |

7 Now complete boxes 1–5 in the diagram with sentences A–E.

- A Greenhouse gases, like carbon dioxide, act like a blanket, trapping heat near the surface and raising the temperature.
- B Some of the Sun's energy is reflected directly back to space.
- C Human activities are increasing the amount of greenhouse gases and trapping more heat.
- D The Earth's surface warms up.
- E Radiation from the Sun passes through the atmosphere. Most of it is absorbed by the Earth.