

Before-reading questions

- 1 *Reader's own answer.*
- 2 *Reader's own answer.*
- 3 *Reader's own answer.*
- 4 *Reader's own answer.*

During-reading questions

CHAPTER ONE

- 1 It is a thin layer of gases above the Earth.
- 2 Because they act like the glass in a greenhouse and stop some of the Sun's heat from leaving the Earth.
- 3 The growing amount of greenhouse gases in the atmosphere.

CHAPTER TWO

- 1 It has slowly gone up.
- 2 The amount of heat coming from the Sun, the effect of volcanoes, and weather patterns like El Niño.
- 3 The Thames Barrier

CHAPTER THREE

- 1 A heatwave is very hot weather for many days.
- 2 A drought is very little rain for a long time.
- 3 Droughts and floods have a damaging effect on how much food we can grow because, when fields become too wet or too dry, plants cannot grow.

CHAPTER FOUR

- 1 Natural changes in the way the Earth moves around the Sun.
- 2 Deforestation, growing food and keeping animals on farms, and making things in factories.
- 3 The level of carbon dioxide in the atmosphere.

CHAPTER FIVE

- 1 Something that takes in carbon and holds it for a long time.
- 2 40 billion tonnes
- 3 The wind and Sun

CHAPTER SIX

- 1 Because more carbon dioxide is going into them.
- 2 Because it holds a huge amount of the greenhouse gas methane and as the temperature increases, this methane goes into the atmosphere.
- 3 About 400 billion tonnes.

CHAPTER SIX

- 1 Wilberforce shouts and Roald is the slowest boy to get there.
- 2 Because it is boring on the toilet.
- 3 He likes playing sport and taking photos.

CHAPTER SEVEN

- 1 They will mean we can use batteries in cars and not use fossil fuels.
- 2 To use the land for farming.
- 3 By often changing the plants that they grow on their land and not always growing the same plants, and by sometimes growing plants on the land and sometimes keeping animals on it.

CHAPTER EIGHT

- 1 In some forests, people cut down a tree and then grow a new tree. This is zero deforestation.
- 2 They can make it cheaper to make and use cleaner energy, and more expensive to make and use fossil fuels.
- 3 Everyone

After-reading questions

- 1 The amount of greenhouse gases in the Earth's atmosphere is growing, and this is making the temperature on Earth get warmer.
 - 2 Because they do not have time to find ways to live with the changes when they happen very quickly.
 - 3 Because burning fossils fuels puts carbon dioxide into the atmosphere, which increases Earth's temperature.
 - 4 The land, forest and oceans are carbon sinks. They take in carbon and hold it for a long time.
 - 5 The energy we get from the Sun and wind does not put any greenhouse gases into the atmosphere.
 - 6 They study ice cores in Antarctica that contain information about Earth's climate in the past.
- 2 The Earth's climate **has changed** a number of times in the past.
 - 3 For many years, scientists **have talked** about climate change and the warming of the Earth.
 - 4 In 2015, the temperature **became** 1°C warmer than 150 years ago.
 - 5 There **was** a big flood in New York City in 2012.

CHAPTER FOUR

- 5 1 For the past 2.6 million years, the Earth has always had some **ice** in the Arctic and Antarctica.
- 2 About 22,000 years ago there was an Ice Age, and **sea levels** were about 130 metres lower than they are today.
- 3 Between the Ice Ages, Earth was **warmer**, and there was not as much ice.
- 4 Studies show that **people** are the biggest cause of climate change today.
- 5 The amount of **greenhouse** gases in the atmosphere is increasing.
- 6 Over millions of years, the bodies of plants and animals can become **fossil fuels**.
- 7 When we burn fossil fuels, **carbon** is put back into the atmosphere as carbon dioxide.

CHAPTER FIVE

- 6 1 The Earth's temperature **may** increase by another 4°C to 5°C by the end of the 21st century.
- 2 A warmer Earth **would** cause huge problems for all the living things on Earth.
- 3 We **must not** burn so many fossil fuels.
- 4 We **should** try to find a way to get clean energy into homes.
- 5 Deforestation **may** cause many animals to become extinct in the future.
- 6 The carbon dioxide in the atmosphere today **will** stay there for thousands of years.

Exercises

CHAPTER ONE

- 1 1 true
2 false
3 false
4 true
5 true
6 false
- 2 1 e 2 c 3 f 4 g 5 a 6 b 7 d

CHAPTER TWO

- 3 1 gone up
2 increased
3 changed
4 talked
5 been
- 4 1 Information from the last 150 years shows that the temperature on the Earth's surface

- 7 We **must** do something to stop climate change.

CHAPTER SIX

- 7 1 High levels of carbon dioxide are making our oceans more **acidic**.
- 2 Australia's Great Barrier Reef is a beautiful **coral** reef.
- 3 There is a **risk** of large and dangerous changes to Earth's climate.
- 4 Increasing sea levels are a huge problem for people who live on **islands**.
- 5 Countries agreed to **cut** the amount of greenhouse gases they put into the atmosphere.

CHAPTER SEVEN

- 8 1 People all over the world need **to cut** the amount of greenhouse gases they put into the atmosphere.
- 2 We need to stop **burning** fossil fuels.
- 3 We can **get** clean energy from a number of places.
- 4 We must **try** not to use more energy than we need.
- 5 People need **to understand** how important forests are.
- 6 Protecting forests is a good way to stop **putting** so much carbon dioxide into the atmosphere.
- 7 We should try to **use** natural cycles when we make new things.

CHAPTERS ONE TO EIGHT

- 9 1 e 2 c 3 d 4 b 5 a

Project work

Reader's own answers.