READING

READING 1

PREPARING TO READ

UNDERSTANDING KEY VOCABULARY

1 You are going to read an article about climate change. Before you read, look at the sentences (1–8) below and write the correct form of the words in bold next to the definitions (a–h).

1 The Amazon rainforest is one of the largest **ecosystems** in the world. It is home to more than 10% of all the known plants and animals on Earth.
2 Adelaide, Australia, has a very pleasant **climate**. The winters are not too cold and the summers are not too hot.
3 Pesticides – chemicals generally used to kill insects which damage plants – also **threaten** helpful insects, such as bees.
4 In order to fight pollution, scientists are developing car engines which use electric or solar energy instead of **fossil fuels** like gasoline.
5 Methane (CH_4) is a **greenhouse gas** which is found naturally inside the Earth and under the sea. It is used for cooking and heating homes and buildings.
6 The Earth's **atmosphere** is 480 km thick and contains a mixture of about 10 different gases, which we call *air*.
7 Because of **global warming**, polar ice is melting, sea levels are rising and some islands might soon be under water.
8 Habitat loss is the most important **cause** of species extinction.

a _____ (n) a gas which makes the air around the Earth warmer
b _____ (n) someone or something that makes something happen
c _____ (n) the layer of gases around the Earth
d _____ (n) the general weather conditions usually found in a particular place
e _____ (n) an increase in the Earth's temperature because of pollution
f _____ (v) to be likely to damage or harm something
g _____ (n) all the living things in an area and the effect they have on each other and the environment
h _____ (n) a source of energy like coal, gas and petroleum, that was formed inside the Earth millions of years ago

PREDICTING CONTENT USING VISUALS

2 Work with a partner. Look at the photo of the Upsala Glacier in Argentina on page 41 and discuss the questions.

1 What has happened to the glacier?
2 What do you think caused this change?
3 What are some other places where a similar change is happening today?
4 How do you predict this kind of change will affect the world?

OUR CHANGING PLANET

The Upsala Glacier in Argentina used to be one of the biggest glaciers in South America. In 1928, it was covered in ice and snow, but now the glacier is melting at an annual rate of about 200 m, so the area is covered in water. This is evidence of **global warming**.

1 In the last 100 years, the global temperature has gone up by around 0.75 °C. This may not sound like much, but such a small increase is causing sea levels to rise and **threatening** the habitat of many species of plants and animals. An increase of 2 °C in global temperatures could result in extinction for 30% of the world's land species.

2 The Northwest Passage is a sea route which runs along the northern coast of Canada between the Atlantic and Pacific Oceans. In the past, it was often difficult to use because the water was frozen; however, increasing temperatures and the subsequent deglaciation[1] have made it easier for ships to travel through this route. The trouble is that the melting of the ice is leading to loss of habitat for the polar bears and other species which live in this area.

3 Experts predict that global sea levels could rise by 30.5–122 cm by the end of the century. Consequently, some areas that were land a few hundred years ago are now under water, and many low-lying islands may be under water in the future.

4 As a result of the changing **climate**, the world's **ecosystems** are also changing faster than ever before. More than one-third of the world's mangrove forests[2] and around 20% of the world's coral reefs[3] have been destroyed in the last few decades. Forests are being cut down to provide land for food because human population is growing at such a rapid rate. Approximately a quarter of the land on Earth is now used for growing food. As a result of the higher temperatures and higher levels of carbon dioxide in the **atmosphere**, plants are producing more pollen, which could lead to more cases of asthma, a medical condition which makes it hard to breathe.

5 What is causing climate change? The main **cause** is the huge amount of **greenhouse gases**, such as methane and carbon dioxide (CO_2), in the atmosphere, but the reason for this is the world's population – you and me. As the population increases, more land is needed to provide food and energy. Burning **fossil fuels** for heating, lighting, transport, electricity or manufacturing produces CO_2. Furthermore, humans breathe out CO_2 while trees 'breathe in' CO_2 and produce oxygen, so by cutting down trees, we are increasing the amount of CO_2 in the atmosphere and reducing the amount of oxygen. As a result of human activities, CO_2 levels are now at their highest in 800,000 years.

6 The biggest challenge we all face is to prevent further environmental disasters. We must do something before it is too late. We need to reduce the amount of CO_2 in the atmosphere. We need to stop burning fossil fuels and start using renewable energy. We can get enough energy from renewable fuels, such as solar energy, hydroelectric energy or wind power, to be able to stop using fossil fuels completely.

[1]**deglaciation** (n) the melting of a glacier

[2]**mangrove forest** (n) large areas of trees and other plants which grow next to oceans, e.g. in Florida and Bangladesh

[3]**coral reefs** (n) colourful underwater ecosystems built by tiny animals

READING FOR MAIN IDEAS

SCANNING TO FIND INFORMATION

WHILE READING

3 Read the article and number the main ideas in the order which they appear.

solution to the problem ____
changing ecosystems ____
melting glaciers ____
causes of climate change ____

4 Read the article again. Then, complete the sentences using the words and phrases in the box.

CO_2 levels	coral reefs	extinction	farming
global temperatures	mangrove forests	sea levels	

1 Over the last century, _____ have gone up by 0.75 °C.
2 Global increases in temperature could cause the _____ of 30% of land species.
3 _____ could rise by about 30.5 cm by the end of the century.
4 Recently, over a third of the world's _____ have been destroyed.
5 Twenty percent of the Earth's _____ have been lost in the last few decades.
6 Twenty-five percent of the land on Earth is used for _____ .
7 _____ are at their highest for 800,000 years.

SKILLS

Reading for detail

In a paragraph, the sentences which come after the topic sentence contain *supporting details* – information to help the reader understand the main idea more fully. Types of supporting details include facts, statistics, examples, reasons, explanations, comparisons and descriptions.

Often, the topic sentence includes words which tell you what type of supporting sentences to expect in the body of the paragraph. For example:

Topic sentence: What is causing climate change?

The words *is causing* tell you that the paragraph will use causes, or reasons, to explain the main idea.

5 Read the article again and complete the table with supporting details.

READING FOR DETAIL

1 country where the Upsala Glacier is located	
2 name of sea route through the Arctic ice	
3 why forests are being cut down all over the world	
4 medical problem caused by pollen	
5 main chemicals responsible for climate change	
6 human activities that reduce the amount of oxygen in the atmosphere	
7 what we should do to reduce the amount of CO_2 in the atmosphere	

READING BETWEEN THE LINES

SKILLS

Identifying purpose and audience

It is useful to think about an author's purpose – what the author was trying to do when writing a text – as well as the audience, or intended reader(s) of a text. This information can give you an idea about the organization of a text and its function.

6 Work with a partner. Discuss the questions.

IDENTIFYING PURPOSE AND AUDIENCE

1 What was the author's main purpose in writing this article?
   a to inform the reader about the causes and effects of global warming
   b to describe changes in mangrove forests and coral reefs
   c to persuade people to help reduce CO_2 levels by using renewable energy

2 Who is the intended audience for this article?
   a advanced science students
   b general adult readers
   c university professors

7 What information in the article helped you choose your answer?

DISCUSSION

8 Work with a partner. Discuss the questions.

1 Are there any advantages to the melting of the glaciers in the Northwest Passage? Give reasons for your answer.
2 What are some possible disadvantages of using renewable energy like solar energy or wind power?