

## Get ready!

1 Before you read the passage, talk about these questions.

- 1 What can happen to the ozone layer if it is damaged?
- 2 What are some things that cause ozone depletion?



We have learned to expect bad news when we hear about our planet. However, environmental scientists finally have good news. **Ozone thinning** has decreased since a number of nations agreed to the **Copenhagen Protocol**.



The **ozone** layer is vital to the health of many organisms, including humans. It reduces the amount of **ultraviolet radiation** that reaches the Earth. Radiation exposure in humans causes severe medical conditions like **cataracts** and **malignant melanomas**. Radiation also causes the death of **phytoplankton**, which performs an important role in regulating atmospheric CO<sub>2</sub>. Naturally, we want to protect the ozone layer.

A few decades ago, scientists discovered that increased radiation was passing through **ozone holes**. They determined that compounds called **CFCs** were breaking down the ozone. The compounds were being released with the use of **Freon**. These included **coolants** in refrigerators and **propellants** in spray cans, among other products. These products **depleted** the ozone at an alarming rate.

In response, many countries agreed to **phase out** these harmful products. Unfortunately, ozone **recovery** may be a slow process. **Seasonal** ozone depletion remains high in some areas. However, scientists are optimistic that ozone levels will return to normal in the next few decades.

## Reading

2 Read the article. Then, choose the correct answers.

- 1 What is the purpose of the article?
  - A to encourage people to avoid using CFCs and propellants
  - B to recommend government assistance with ozone recovery
  - C to explain the importance of preserving the atmosphere
  - D to describe treatments for radiation exposure
- 2 Which of the following is NOT a cause of ozone depletion?
  - A Freon
  - B coolants
  - C propellants
  - D melanomas
- 3 According to the article, what is true about ozone recovery?
  - A It may take a few decades.
  - B It is easier with increased use of CFCs.
  - C It is not likely to happen.
  - D It will probably cause phytoplankton deaths.

## Vocabulary

3 Match the words (1-8) with the definitions (A-H).

- |                |                             |
|----------------|-----------------------------|
| 1 ___ CFC      | 5 ___ phase out             |
| 2 ___ ozone    | 6 ___ phytoplankton         |
| 3 ___ deplete  | 7 ___ ozone thinning        |
| 4 ___ seasonal | 8 ___ ultraviolet radiation |

- A the process in which the protective stratospheric layer becomes depleted
- B powerful energy from the sun that is harmful at high levels
- C a compound that is used to make some coolants and propellants
- D occurring at a particular time of year
- E to greatly reduce the amount of something
- F to gradually remove or stop something
- G a type of small plant that lives in water
- H a protective layer of oxygen in the stratosphere



cataract



malignant melanoma



phytoplankton

4 Place the words and phrases from the word bank under the correct headings.

**Word BANK**

- coolant    ozone hole
- Freon    cataract
- propellant    recovery
- Copenhagen Protocol
- malignant melanoma

Causes of ozone depletion
Effects of ozone depletion
Reversing ozone depletion

5 Listen and read the article again. What can cause malignant melanomas?

**Listening**

6 Listen to a conversation between two scientists. Mark the following statements as true (T) or false (F).

- 1 \_\_\_ According to the man, the ozone hole will affect the whole planet.
- 2 \_\_\_ The woman predicts higher risks of skin conditions.
- 3 \_\_\_ The man thinks that ozone recovery will take hundreds of years.

7 Listen again and complete the conversation.

**Scientist 1:** Have you seen the latest satellite readings? Ozone levels don't look too good.

**Scientist 2:** I'm not surprised. We've seen 1 \_\_\_\_\_ for the last several years.

**Scientist 1:** The ozone hole is over Antarctica now. It'll damage the 2 \_\_\_\_\_ down there.

**Scientist 2:** You're probably right. 3 \_\_\_\_\_ there aren't any people down there.

**Scientist 1:** That doesn't matter. If phytoplankton is affected, 4 \_\_\_\_\_. They're major players in the carbon cycle.

**Scientist 2:** I guess that's true. High CO<sub>2</sub> levels will warm 5 \_\_\_\_\_.

**Scientist 1:** Right. And besides, the 6 \_\_\_\_\_ could drift towards more populated areas.

**Speaking**

8 With a partner, act out the roles below based on Task 7. Then switch roles.

**USE LANGUAGE SUCH AS:**

- Have you seen ...?*
- But at least ...*
- It's a good thing that ...*

**Student A:** You are a scientist. Talk to Student B about:

- an ozone hole
- the causes of the hole
- the effects of the hole

**Student B:** You are a scientist. Talk to Student A about an ozone hole.

**Writing**

9 Use the article and the conversation from Task 8 to write a letter encouraging a nation's President to sign the Copenhagen Protocol. Include: a change in the ozone, effects of the change, and how the protocol will improve the situation.