

# 9 Ozone depletion and climate change – Part 1

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

| English           | 中文          | Write it 3 times (English) |
|-------------------|-------------|----------------------------|
| ozone layer       | 臭氧层         | _____                      |
| ultraviolet       | 紫外线         | _____                      |
| CFCs              | 氯氟烃         | _____                      |
| Montreal Protocol | 蒙特利尔<br>议定书 | _____                      |
| greenhouse effect | 温室效应        | _____                      |
| greenhouse gases  | 温室气体        | _____                      |
| methane           | 甲烷          | _____                      |
| climate change    | 气候变化        | _____                      |

## Recall

You have probably heard about these global problems:

- The “ozone hole” high in the atmosphere.
- Global warming and the greenhouse effect.
- Carbon dioxide building up from burning fuels.

This sheet lines up ozone depletion and climate change – two different problems. Each idea has a short worked example.

## New ideas

### ■ 1 Ozone depletion

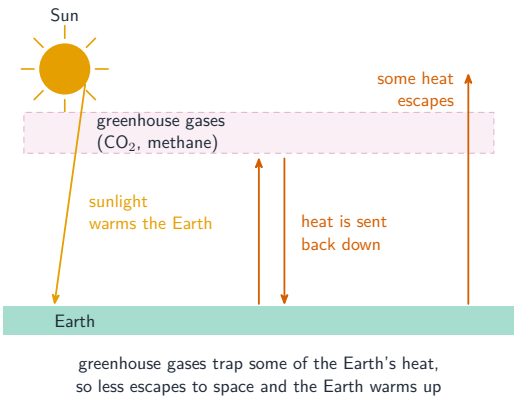
The **ozone layer** 臭氧层 high up absorbs harmful **ultraviolet** 紫外线 rays. **CFCs** 氯氟烃 (once used in fridges and sprays) destroy ozone, thinning it (the ozone hole) and letting more UV reach the surface.

### ■ 2 A rare success

The **Montreal Protocol** 蒙特利尔议定书 (1987) banned CFCs worldwide, and the ozone layer is slowly recovering – a rare environmental success story.

### ■ 3 The greenhouse effect

The **greenhouse effect** 温室效应 keeps Earth warm: **greenhouse gases** 温室气体 let sunlight in but trap the heat the Earth gives off. This is natural and makes Earth livable.



### ■ 4 Climate change

Humans add extra greenhouse gases – CO<sub>2</sub> from burning fuels and **methane** 甲烷 from livestock – strengthening the effect. This causes **climate change** 气候变化: warming, melting ice, rising seas, and more extreme weather.

**Watch out:** ozone depletion and climate change are **two different problems**. Ozone depletion is CFCs letting in more UV; climate change is greenhouse gases trapping more heat. Don't mix them up.

## Practice

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Try these in order. The methods are all above.

**2.1** State what the ozone layer does and what damages it. [2]

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**2.2** State why the Montreal Protocol is considered a success. [2]

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**2.3** Explain the natural greenhouse effect. [2]

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**2.4** Name two greenhouse gases and a human source of each. [2]

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**2.5** State one difference between ozone depletion and climate change. [2]

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