

10 Air and climate – Part 2

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)		
air	空气	_____	_____	_____
pollutants	污染物	_____	_____	_____
nitrogen	氮气	_____	_____	_____
oxygen	氧气	_____	_____	_____
carbon dioxide	二氧化碳	_____	_____	_____
carbon monoxide	一氧化碳	_____	_____	_____
sulfur dioxide	二氧化硫	_____	_____	_____
oxides of nitrogen	氮氧化物	_____	_____	_____
Greenhouse gases	温室气体	_____	_____	_____
methane	甲烷	_____	_____	_____
global warming	全球变暖	_____	_____	_____

Recall

The **air** 空气 around us is a mixture of gases. Burning fuels adds **pollutants** 污染物 that harm the air and the climate.

- Clean dry air is mostly nitrogen and oxygen.
- Some gases trap heat and warm the Earth.

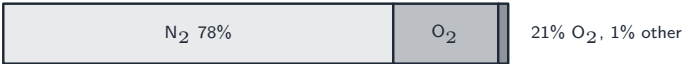
Nothing here is hard — it just lists the gases and effects.

New ideas

Read these first, then do the Practice.

■ 1 What is in clean air

Gas	Amount
nitrogen 氮气	about 78%
oxygen 氧气	about 21%
noble gases + carbon dioxide	about 1%

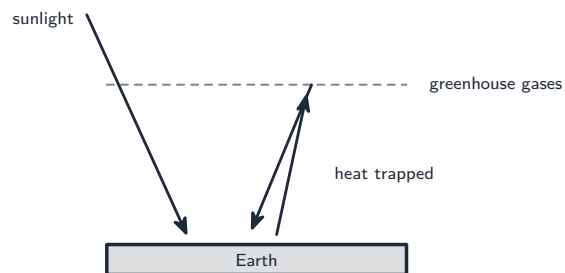


■ 2 Air pollutants

Pollutant	Source	Problem
carbon dioxide 二氧化碳	burning fuels	greenhouse gas → global warming
carbon monoxide 一氧化碳	incomplete combustion	toxic
sulfur dioxide 二氧化硫	fuels with sulfur	acid rain
oxides of nitrogen 氮氧化物	car engines	acid rain

■ 3 The greenhouse effect

Greenhouse gases 温室气体 (CO₂, **methane** 甲烷) let sunlight through, but they **absorb** the heat the warm Earth gives off and send some back down — so the Earth warms up (**global warming** 全球变暖).



Watch out: keep the two problems apart — **carbon dioxide** and methane cause **global warming**; **sulfur dioxide** and oxides of nitrogen cause **acid rain**. And carbon *monoxide* is toxic, while carbon *dioxide* is the greenhouse gas.

Practice

Try these in order.

10.1 What are the two main gases in clean, dry air, and their approximate percentages?^[2]

10.2 Name a pollutant that causes (a) acid rain, (b) global warming.^[2]

10.3 Why is carbon monoxide dangerous?^[1]

10.4 Explain how greenhouse gases warm the Earth.^[3]

10.5 State two ways to slow climate change.^[2]

10.6 Challenge. A car engine burns petrol. (a) Name a pollutant it makes that causes acid rain. (b) Name the toxic gas formed when the fuel burns in too little oxygen, and explain why it forms.^[3]