10 Air and climate – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	**Write it 3 times** (English)		
air			
pollutants			
nitrogen			
oxygen			
carbon dioxide			
carbon monoxide			
sulfur dioxide			
oxides of nitrogen			
Greenhouse gases			
methane			
global warming			

Recall

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

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

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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	about 78%
oxygen	about 21%
noble gases + carbon dioxide	about 1%

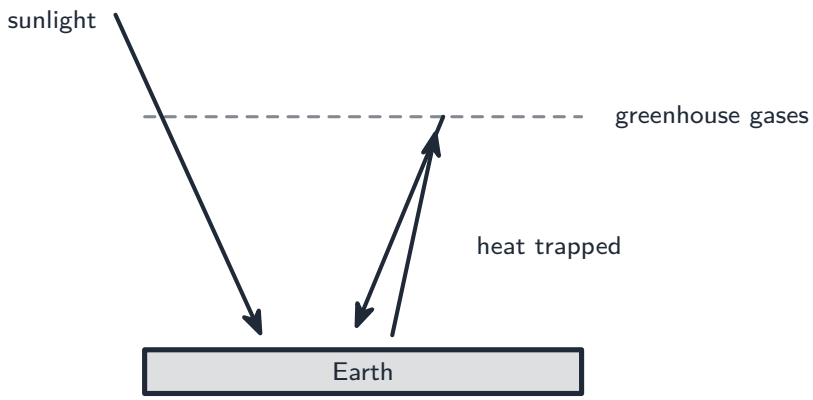


■ 2 Air pollutants

Pollutant	Source	Problem
carbon dioxide	burning fuels	greenhouse gas → global warming
carbon monoxide	incomplete combustion	toxic
sulfur dioxide	fuels with sulfur	acid rain
oxides of nitrogen	car engines	acid rain

■ 3 The greenhouse effect

Greenhouse gases (CO_2, **methane**) 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**).



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]