

7.5 Indoor Air Pollutants

Name: _____ Class: _____ Date: _____

Total: 9 marks

Objective

Build the skills to answer exam questions on **indoor air pollutants**.

You must be able to:

- name common indoor pollutants (**radon** 氡, **CO**, VOCs, **asbestos** 石棉)
- state their sources and health effects
- explain why indoor air can be worse than outdoor

1 Worked examples

Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

■ Common indoor pollutants

- **Radon** —radioactive gas from soil/rock seeping into basements; causes lung cancer.
- **Carbon monoxide (CO)** —from faulty heaters/stoves; deadly (blocks oxygen in blood).
- **VOCs** —from paints, furniture, cleaners.
- **Asbestos** —old insulation; fibers cause lung disease.
- **Tobacco smoke** and mold.

■ Why indoor air can be worse

Homes are often **sealed** for energy efficiency, so pollutants **build up** without fresh air. People also spend most time indoors.

■ Prevention

Ventilation, radon testing, CO detectors, and avoiding smoking indoors reduce exposure.

■ A worked link

A tightly sealed home with a gas stove and no ventilation can accumulate CO and VOCs to unhealthy levels —worse than outside.

2 Practice

Now apply the methods above.

2.1 Name one radioactive indoor pollutant. [1]

2.2 What is a source of indoor carbon monoxide? [1]

2.3 Why can indoor air be worse than outdoor air? [1]

3 Exam-style questions

3.1 Radon gas enters homes mainly from [1]

- **A** vehicle exhaust
 - **B** soil and rock beneath the building
 - **C** the ozone layer
 - **D** ocean water
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3.2 A well-sealed home uses a gas heater with poor ventilation.

(a) Name one dangerous pollutant that could build up. [1]

(b) Explain why sealing a home can worsen indoor air. [2]

3.3 Explain two ways to reduce indoor air pollution. [2]

4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **7.5 Indoor Air Pollutants** lesson on the **Learn** page;
- read the **Indoor Air Pollutants** section of the AP Environmental Science handout on the **Know** page.

Solutions

2.1 Radon.

2.2 A faulty heater/stove or burning fuel indoors.

2.3 Sealed homes trap pollutants so they build up without fresh air.

3.1 B —soil and rock beneath the building.

3.2 (a) Carbon monoxide (or VOCs). (b) Sealing reduces fresh-air exchange, so pollutants accumulate indoors instead of dispersing.

3.3 Any two: improve ventilation, install CO detectors, test for radon, avoid smoking/VOC sources indoors.