

Exercise walk-through

Indoor Air Pollutants ■ 7.5

eXercise

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

Method — 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.

Method — 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.

Method — Prevention

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

Method — 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.

Practice 2.1 ■ 1 mark

Name one radioactive indoor pollutant.

Solution 2.1

Method: Common indoor pollutants

Worked steps

Radon **B1**.

Practice 2.2 ■ 1 mark

What is a source of indoor carbon monoxide?

Solution 2.2

Method: Common indoor pollutants

Worked steps

A faulty heater/stove or burning fuel indoors **B1**.

Practice 2.3 ■ 1 mark

Why can indoor air be worse than outdoor air?

Solution 2.3

Worked steps

Sealed homes trap pollutants so they build up without fresh air **B1**.

Exam-style 3.1 ■ 1 mark

Radon gas enters homes mainly from

- A** vehicle exhaust
- B** soil and rock beneath the building
- C** the ozone layer
- D** ocean water

Solution 3.1

- A** vehicle exhaust
- B** soil and rock beneath the building 
- C** the ozone layer
- D** ocean water

Worked steps

B — soil and rock beneath the building.

Exam-style 3.2 ■ 1 mark

A well-sealed home uses a gas heater with poor ventilation.

- (a) Name one dangerous pollutant that could build up.
- (b) Explain why sealing a home can worsen indoor air.

Solution 3.2

Worked steps

(a) Carbon monoxide (or VOCs) **B1**. (b) Sealing reduces fresh-air exchange, so pollutants accumulate indoors instead of dispersing **M1** **A1**.

Exam-style 3.3 ■ 2 marks

Explain two ways to reduce indoor air pollution.

Solution 3.3

Worked steps

Any two: improve ventilation, install CO detectors, test for radon, avoid smoking/VOC sources indoors **M1** **A1**.