

Exercise walk-through

Noise Pollution ■ 7.8

eXercise

You must be able to

- define **noise pollution** 噪声污染 and its sources
- describe effects on humans and wildlife
- suggest ways to reduce it

Method — What it is

Noise pollution is unwanted or harmful sound, mostly from **traffic, industry, construction, and aircraft**, measured in **decibels (dB)**.

Method — Effects on humans

Chronic noise causes **stress, sleep disruption, hearing loss** (at high levels), and raised blood pressure.

Method — Effects on wildlife

Noise (especially **underwater sonar/ship noise**) interferes with animal **communication, navigation, and mating** — for example, disorienting whales and dolphins.

Method — Reducing noise

- **Barriers** (sound walls along highways).
- **Quieter technology** and mufflers.
- **Zoning** (separating noisy areas from homes) and limits on hours.

Method — A worked link

A highway sound wall reflects/absorbs traffic noise, lowering the decibel level reaching nearby homes.

Practice 2.1 ■ 1 mark

Give one source of noise pollution.

Solution 2.1

Method: What it is

Worked steps

Any one: traffic, industry, construction, aircraft **B1**.

Practice 2.2 ■ 1 mark

State one effect of chronic noise on humans.

Solution 2.2

Method: Effects on humans

Worked steps

Any one: stress, sleep disruption, hearing loss, high blood pressure **B1**.

Practice 2.3 ■ 1 mark

State one way to reduce noise pollution.

Solution 2.3

Method: What it is

Worked steps

Any one: sound barriers, quieter technology, zoning, hour limits **B1**.

Exam-style 3.1 ■ 1 mark

Underwater noise pollution most harms marine animals by disrupting their

A communication and navigation

B photosynthesis

C digestion

D skeletons

Solution 3.1

A communication and navigation



B photosynthesis

C digestion

D skeletons

Worked steps

A — communication and navigation.

Exam-style 3.2 ■ 1 mark

A new highway is built near a residential area.

- (a) State one human health effect of the added noise.
- (b) Suggest two ways to reduce the noise reaching homes.

Solution 3.2

Method: A worked link

Worked steps

(a) Any one: stress, sleep disruption, hearing effects **B1**. (b) Any two: sound walls, quieter road surfaces/vehicles, zoning/hour limits, tree buffers **M1** **A1**.

Exam-style 3.3 ■ 2 marks

Explain how ship noise can affect whales.

Solution 3.3

Method: Effects on wildlife

Worked steps

Ship noise masks the sounds whales use to communicate and navigate, disorienting them and interfering with finding mates or food **M1** **A1**.