

8.14 Pollution and Human Health

Name: _____ Class: _____ Date: _____

Total: 10 marks

KEY WORDS chronic 慢性 • acute 急性

Objective

Build the skills to answer exam questions on **pollution and human health**.

You must be able to:

- distinguish **acute** 急性 and **chronic** 慢性 exposure
- classify health effects (carcinogens, neurotoxins, teratogens)
- link specific pollutants to health outcomes

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.

■ Acute vs chronic

- **Acute exposure** — a single, short, high-dose exposure (e.g. a chemical spill).
- **Chronic exposure** — repeated, low-dose exposure over a long time (e.g. living near a polluted site).

■ Types of harmful agents

- **Carcinogens** — cause cancer (e.g. asbestos, some POPs).
- **Neurotoxins** — damage the nervous system (e.g. lead, mercury).
- **Teratogens** — cause birth defects (e.g. some chemicals, alcohol).

■ Specific links

- **Lead** — brain damage, especially in children.
- **Mercury** — nervous-system damage (from contaminated fish).
- **Particulates** — respiratory and heart disease.

■ A worked classification

Lead is a **neurotoxin**; long-term low-level exposure in old paint or pipes is **chronic** and especially harms children's brain development.

2 Practice

Now apply the methods above.

2.1 Distinguish acute from chronic exposure. [2]

2.2 What is a carcinogen? [1]

2.3 Name one neurotoxin. [1]

3 Exam-style questions

3.1 A substance that causes birth defects is a [1]

A	B
C	D

A carcinogen

B neurotoxin

C teratogen

D nutrient

3.2 Children in old housing are exposed to lead paint over many years.

(a) State whether this is acute or chronic exposure. [1]

(b) Classify lead's health effect and explain the concern for children. [2]

3.3 Explain why chronic low-dose exposure can be hard to detect but still harmful. [2]