

15.1 Drugs

Name: _____ Class: _____ Date: _____ **Total: 8 marks**

KEY WORDS drug 药物 • antibiotics 抗生素 • bacteria 细菌 • resistant 耐药 • viruses 病毒

Objective

Build the skills to answer exam questions on **drugs** 药物 — what a drug is, **antibiotics** 抗生素, and **antibiotic resistance** 抗药性.

You must be able to:

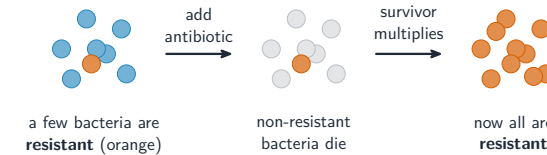
- define a drug
- explain why antibiotics work on bacteria but not viruses
- explain how antibiotic resistance arises and how to slow it

1 Worked examples

■ Antibiotics and resistance



Antibiotics kill bacteria (or stop them growing) but have no effect on viruses



Resistant bacteria survive the antibiotic and multiply — so use antibiotics only when needed and finish the course

2 Practice

2.1 Define a drug. [1]

2.2 State why antibiotics cannot cure a cold. [1]

3 Exam-style questions

3.1 Antibiotics are effective against: [1]

- **A** viruses only
- **B** bacteria only
- **C** all pathogens
- **D** fungi only

3.2 Some bacteria become resistant to an antibiotic.

(a) Explain how a population of bacteria can become resistant. [3]

(b) State two ways to slow the development of resistance. [2]

Solutions

2.1 any substance taken into the body that changes (affects) the body's chemical reactions.

2.2 a cold is caused by a virus, and antibiotics do not affect viruses.

3.1 B. Antibiotics work on bacteria, not viruses.

3.2 (a) a few bacteria are resistant by chance; the antibiotic kills the non-resistant ones, so the resistant ones survive; they multiply until the population is resistant.

(b) use antibiotics only when really needed; always finish the full course.