

# 15.1 Drugs

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 8 marks

## 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:**

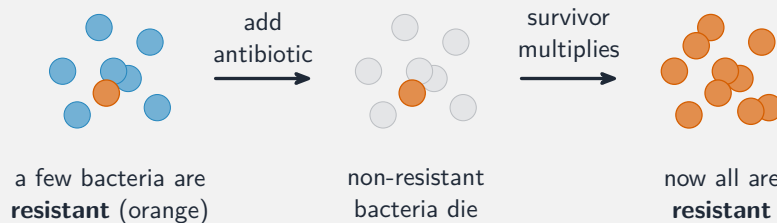
- define a drug
- explain why antibiotics work on bacteria but not viruses
- explain how antibiotic resistance arises and how to slow it

## 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

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**2.1** Define a drug. [1]

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

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## 3 Exam-style questions

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**3.1** Antibiotics are effective against: [1]

- **A** viruses only
  - **B** bacteria only
  - **C** all pathogens
  - **D** fungi only
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**3.2** Some bacteria become resistant to an antibiotic.

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

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

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## 4 Go further

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You are now ready for the real exam questions on this subtopic. Open the **15.1 Drugs** material in the Library, or practise drug and antibiotic-resistance questions in **Practice mode** (these appear in the disease and selection topics).

## Solutions

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**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.