

Exercise walk-through

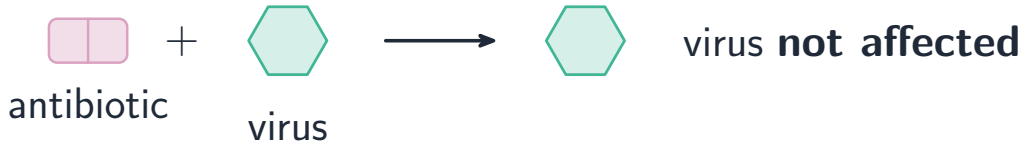
Drugs ■ 15.1

eXercise

You must be able to

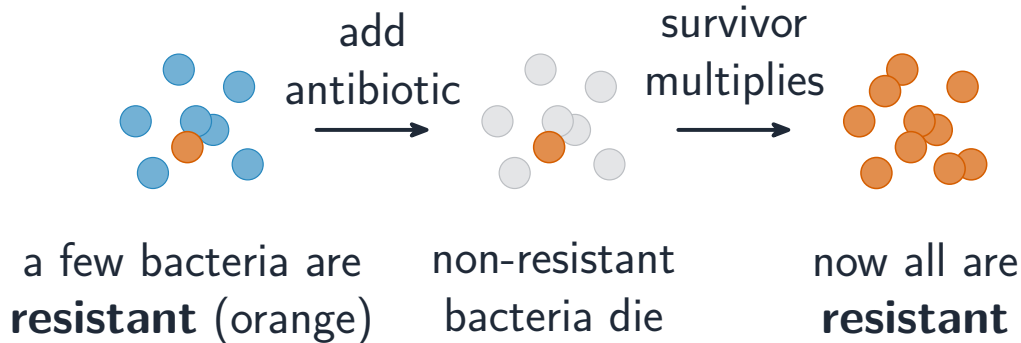
- define a drug
- explain why antibiotics work on bacteria but not viruses
- explain how antibiotic resistance arises and how to slow it

Method — Antibiotics and resistance



Antibiotic kills a bacterium but not a virus

Method — Antibiotics and resistance



Resistant bacteria survive and multiply

Practice 2.1 ■ 1 mark

Define a drug.

Solution 2.1

Worked steps

any substance taken into the body that changes (affects) the body's chemical reactions **B1**.

Practice 2.2 ■ 1 mark

State why antibiotics cannot cure a cold.

Solution 2.2

Worked steps

a cold is caused by a virus, and antibiotics do not affect viruses **B1**.

Exam-style 3.1 ■ 1 mark

Antibiotics are effective against:

A viruses only

B bacteria only

C all pathogens

D fungi only

Solution 3.1

A viruses only

B bacteria only 

C all pathogens

D fungi only

Worked steps

B. Antibiotics work on bacteria, not viruses.

Exam-style 3.2 ■ 3 marks

Some bacteria become resistant to an antibiotic.

- (a) Explain how a population of bacteria can become resistant.
- (b) State two ways to slow the development of resistance.

Solution 3.2

Method: Antibiotics and resistance

Worked steps

- (a) a few bacteria are resistant by chance **M1**; the antibiotic kills the non-resistant ones, so the resistant ones survive **M1**; they multiply until the population is resistant **A1**.
- (b) use antibiotics only when really needed **M1**; always finish the full course **A1**.