

A-Level Biology

Name: _____ Score: _____

1. A pathogen is:
 - ☐ a type of white blood cell
 - ☐ an organism that lives in or on a host and causes disease
 - ☐ a medicine that kills bacteria
 - ☐ a vaccine
2. Which helps control the spread of an infectious disease?
 - ☐ ignoring symptoms
 - ☐ sharing needles
 - ☐ vaccination
 - ☐ eating more sugar
3. Penicillin kills bacteria by:
 - ☐ dissolving their membranes with heat
 - ☐ stopping them building their cell walls, so they take in water and burst
 - ☐ blocking their ribosomes
 - ☐ breaking down their DNA
4. An organism that carries a pathogen from one host to another – like the mosquito for malaria – is a _____.

5. The most important way to prevent cholera is to:
 - ☐ sleep under mosquito nets
 - ☐ take a long antibiotic course
 - ☐ provide clean water and proper sewage treatment
 - ☐ use condoms
6. Why do antibiotics not work against viruses?
 - ☐ viruses are too large
 - ☐ viruses are not alive at all, so nothing affects them
 - ☐ viruses have thicker cell walls
 - ☐ a virus has no cell wall or reactions of its own to target

7. Cholera is caused by a virus and spreads mainly through the air.

☐ True ☐ False

8. Malaria is controlled by attacking the mosquito _____ – with nets, insecticides and by draining breeding pools.

9. Antibiotic resistance spreads by natural _____ – resistant bacteria survive and reproduce.

10. There is currently no cure or vaccine for HIV, so prevention (condoms, clean needles) matters most.

☐ True ☐ False

A-Level Biology

1. an organism that lives in or on a host and causes disease

A pathogen causes an infectious (transmissible) disease – e.g. a bacterium, virus or protist.

2. vaccination

Vaccination, hygiene and quarantine all reduce the spread of disease.

3. stopping them building their cell walls, so they take in water and burst

Penicillin prevents cell-wall synthesis; the growing cell cannot hold the water it absorbs, so it bursts.

4. vector

The mosquito is the vector that transmits the Plasmodium protist when it bites.

5. provide clean water and proper sewage treatment

Cholera spreads via faeces-contaminated water, so clean water and good sanitation are key.

6. a virus has no cell wall or reactions of its own to target

Antibiotics target bacterial structures/processes; a virus has none of these, using the host cell instead.

7. False

False. Cholera is caused by a bacterium, *Vibrio cholerae*, and spreads through water or food contaminated with faeces.

8. vector

The mosquito is the vector; stop it biting (nets) or breeding (drain still water) and you stop malaria spreading.

9. selection

The antibiotic is the selection pressure; only resistant bacteria survive to pass on their genes.

10. True

HIV has no cure or vaccine yet; prevention and drugs that slow the virus are the main tools.