

10 Infectious disease — Part 2 — Answers

Answers

Work through these after trying the questions yourself.

10.1 A drug that kills bacteria or stops them growing.

10.2 Penicillin stops the bacterium building a new cell wall; as it grows, the weak wall cannot hold it, so the cell takes in water (by osmosis) and bursts.

10.3 A virus has no cell wall and no reactions of its own to attack (it uses the host cell), so there is no antibiotic target.

10.4 When the antibiotic is used, the non-resistant bacteria are killed but the resistant ones survive; the survivors reproduce and pass on the resistance, so the proportion of resistant bacteria rises (natural selection).

10.5 Any two of: only use antibiotics when needed; always finish the full course; use the correct antibiotic; reduce antibiotic use in farming.

10.6 Stopping early kills only the weakest bacteria; the hardier, more resistant ones survive. These survivors then multiply and pass on their resistance, so by natural selection the resistant strain spreads — making the infection harder to treat next time.