

11 Immunity — Part 2 — Answers

Answers

Work through these after trying the questions yourself.

11.1 Memory cells.

11.2 It is faster and larger (more antibodies, produced more quickly).

11.3 In active immunity the body makes its own antibodies and memory cells (slow but long-lasting); in passive immunity ready-made antibodies are given from outside (fast but short-lived, with no memory cells).

11.4 It contains antigens (often a dead or weakened pathogen); it makes the body produce antibodies and memory cells.

11.5 If enough people are immune, the pathogen cannot spread easily from person to person, so it rarely reaches the unvaccinated people (herd immunity).

11.6 Passive immunity — the baby is given ready-made antibodies (it did not make them itself), so the protection works at once but does not last.

11.7 A vaccine contains only harmless antigens (a dead or weakened pathogen), so it cannot cause the disease. These antigens still trigger a primary response and make memory cells — so if the real pathogen arrives later, a fast secondary response destroys it, giving long-lasting immunity.