

**YEAR 10**

Infection and Response

Three parts that get harder: a warm-up, where you should be now, then a stretch. Write the letter of the right option, or a number where one is asked for. Pathogens, defences, and how medicines and vaccines work.

Name: _____

Date: _____

Score: _____

A. Warm-up

Four kinds of pathogen.

- 1 A pathogen is
 - (a) any bacterium
 - (b) a white blood cell
 - (c) a microorganism that causes disease
 - (d) a type of medicine
- 2 Which type of pathogen causes measles?
 - (a) A bacterium
 - (b) A fungus
 - (c) A protist
 - (d) A virus
- 3 Which disease is caused by a protist and spread by mosquitoes?
 - (a) Malaria
 - (b) Measles
 - (c) Salmonella food poisoning
 - (d) HIV

- 4 Which is caused by a bacterium?
- (a) Measles
 - (b) Salmonella food poisoning
 - (c) Malaria
 - (d) Rose black spot
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- 5 Rose black spot is caused by
- (a) a virus
 - (b) a bacterium
 - (c) a fungus
 - (d) a protist
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B. Where you should be now

The body's defences, and what medicines can and cannot do.

- 6 How do bacteria make us feel ill?
- (a) They live inside our cells and burst them
 - (b) They eat our white blood cells
 - (c) They block our lungs
 - (d) They reproduce rapidly and may produce toxins
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- 7 How do viruses make us feel ill?
- (a) They reproduce inside cells, damaging them
 - (b) They produce antibiotics
 - (c) They are too large to be destroyed
 - (d) They live on the skin only
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- 8 Which is a non-specific defence?
- (a) Antibodies
 - (b) The skin acting as a barrier
 - (c) Vaccination
 - (d) Antibiotics
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- 9 White blood cells defend the body by
- (a) making more red blood cells
 - (b) raising blood sugar
 - (c) engulfing pathogens and producing antibodies and antitoxins
 - (d) producing antibiotics
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- 10 Antibiotics kill
- (a) viruses, but not bacteria
 - (b) both bacteria and viruses
 - (c) only fungi
 - (d) bacteria, but not viruses
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- 11 How does a vaccine protect you?
- (a) An inactive pathogen triggers antibodies, so the body responds fast if infected later
 - (b) It kills all bacteria in the body
 - (c) It cures the disease once you have it
 - (d) It makes the skin thicker
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C. Stretch

Resistance, herd immunity and testing drugs.

- 12 Why do doctors not prescribe antibiotics for colds?
- (a) Colds are too mild
 - (b) Colds are caused by viruses, and overuse helps resistant bacteria spread
 - (c) Antibiotics are too expensive
 - (d) Antibiotics cause colds
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- 13 Antibiotic-resistant bacteria such as MRSA arise by
- (a) vaccines changing the bacteria
 - (b) bacteria learning from each other
 - (c) mutation, then natural selection as antibiotics kill the non-resistant ones
 - (d) doctors breeding them
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- 14 Why does vaccinating most of a population protect people who are not vaccinated?
- (a) The vaccine spreads to them through the air
 - (b) Unvaccinated people become immune by touch
 - (c) Pathogens die out in a day
 - (d) The pathogen has fewer people to spread through
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- 15 Painkillers such as paracetamol
- (a) treat symptoms but do not kill pathogens
 - (b) kill bacteria
 - (c) kill viruses
 - (d) work as vaccines
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- 16 In a double-blind drug trial,
- (a) only the patients are blindfolded
 - (b) neither patients nor doctors know who receives the drug and who the placebo
 - (c) the drug is tested on blind volunteers
 - (d) every patient receives the drug
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