

Pathogens and transmission: practice questions

8 questions • 21 marks • mark scheme at the back

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Name

Total / 21

1 What is a pathogen? [1 mark]

- A. ☐ A disease-causing organism
- B. ☐ A protein that fights disease
- C. ☐ A cell that engulfs bacteria
- D. ☐ A chemical that kills bacteria

2 Define the term transmissible disease and give two ways in which a pathogen can be transmitted indirectly. [3 marks]

3 Which is an example of transmission by direct contact? [1 mark]

- A. ☐ Breathing in droplets from the air
- B. ☐ Eating contaminated food
- C. ☐ Passing a pathogen in blood
- D. ☐ Touching a contaminated door handle

4 Describe four ways the body defends itself against pathogens. [4 marks]

5 Explain why a clean water supply and sewage treatment are important in controlling the spread of disease. **[4 marks]**

6 Which action helps to stop pathogens spreading from hands to food? **[1 mark]**

- A . ☐ Washing hands before preparing food
- B . ☐ Keeping food in sunlight
- C . ☐ Eating food quickly
- D . ☐ Adding salt to water

7 **Supplement** **[4 marks]**

Cholera is a disease caused by a bacterium. Explain how the cholera bacterium causes diarrhoea.

8 Explain how poor waste disposal could increase the spread of a transmissible disease. **[3 marks]**

Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

A A (1)

2. [3]

- a disease in which the pathogen can be passed from one host to another (1)
- contaminated surfaces / food / animals / air (1)
- any second different indirect route, e.g. contaminated food (1)
- allow water for food; ignore touching without reference to a surface
- Max 3

3. [1]

C C (1)

4. [4]

- skin forms a barrier / stops pathogens entering (1)
- hairs in the nose trap pathogens / dust (1)
- mucus traps pathogens (1)
- stomach acid kills pathogens (1)
- white blood cells destroy pathogens / ingest / make antibodies (1)
- Max 4

5. [4]

- water can contain pathogens / be contaminated (1)
- clean (treated) water has the pathogens removed / killed (1)
- so people do not swallow pathogens in drinking water (1)
- sewage contains pathogens (1)
- treating sewage stops it contaminating drinking water / food (1)
- Max 4

6. [1]

A A (1)

7. [4] **Supplement**

- bacterium produces a toxin (1)
- toxin causes chloride ions to be secreted into the small intestine (1)
- water moves into the gut from the blood (1)
- by osmosis (1)
- allow Cl⁻ for chloride ions; reject chlorine / chlorine ions
- Max 4

8. [3]

- waste may contain pathogens (1)
- pathogens can contaminate food / water / surfaces (1)
- people then take in the pathogens / pathogens passed to new hosts (1)
- allow animals attracted to waste spread the pathogens