1. A pathogen is:

   ☐ a type of white blood cell

   ☐ a microbe that causes disease

   ☐ a vaccine

   ☐ a harmless gut bacterium

2. What did Jenner use to protect James Phipps from smallpox?

   ☐ Smallpox blood

   ☐ An antibiotic

   ☐ Clean water

   ☐ Fluid from a cowpox sore

3. Which can be pathogens? (Select all that apply.)

   ☐ fungi

   ☐ bacteria

   ☐ viruses

   ☐ red blood cells

   Tick every correct option.

4. Each antibody fits only one shape of antigen.

   ☐ True ☐ False

5. A pathogen spread by coughs and sneezes travels through the:

   ☐ bones

   ☐ nerves

   ☐ soil only

   ☐ air

6. What does a vaccine contain?

   ☐ Harmless antigens from a pathogen

   ☐ Antibiotics

   ☐ Red blood cells

   ☐ Antibodies from a horse

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   ☐ the skin

   ☐ a vaccine

   ☐ an antibody

   ☐ a hormone

8. Antibiotics can cure viral infections such as flu.

   ☐ True ☐ False

9. Swallowed pathogens are killed by the _____ in the stomach.

   _____

10. An antibody against one kind of bacterium will also attack a different kind.

    ☐ True ☐ False

1. **a microbe that causes disease**

   Pathogens are disease-causing microbes.

2. **Fluid from a cowpox sore**

   The first vaccine.

3. **fungi; bacteria; viruses**

   Bacteria, viruses, fungi and protoctists can cause disease; red blood cells cannot.

4. **True**

   Complementary shapes.

5. **air**

   Airborne droplets carry pathogens.

6. **Harmless antigens from a pathogen**

   Dead, weakened or parts of pathogens.

7. **the skin**

   The skin physically blocks pathogens.

8. **False**

   They work only on bacteria.

9. **acid**

   Stomach acid destroys many pathogens in food.

10. **False**

    Each antibody has a shape complementary to one antigen only.

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