

The Immune System: Immune System Overview

1. Name the two major functions of the immune system:

- _____
- _____

2. Pathogens are classified according to their size and where they are located in the body. List the five types of pathogens from largest to smallest:

- _____
- _____
- _____
- _____
- _____

3. Which type of pathogen is always intracellular? _____
Which type of pathogen is always extracellular? _____

4-5. Name the three main lines of defense and give an example of each:

Line of defense	Example

6. When the surface barriers (innate external defenses) are penetrated, what is the next line of defense?

7. This defense mechanism (named in question 6) identifies enemies by recognizing _____ unique to the pathogens. When they are overwhelmed, they secrete _____ to mobilize the adaptive defenses.

8. Name the four key ways adaptive defenses differ from innate defenses:

- _____
- _____
- _____
- _____

9. B and T lymphocytes recognize pathogens by binding to them. What the lymphocyte recognizes is called the _____ found on the antigen.
10. Specific B cells called _____ cells secrete _____, which bind to the antigens.

Humoral Versus Cellular Immunity

11. _____ immunity is directed against pathogens in the extracellular fluid. This immunity involves _____ lymphocytes.
12. _____ immunity is directed against pathogens within the cells. This immunity involves _____ lymphocytes.
13. Which type of immunity involves antibodies? _____
14. Name three circumstances in which the T cells would be activated against body cells:
- _____
 - _____
 - _____