

Name \_\_\_\_\_

Period \_\_\_\_\_

AP Biology

Date \_\_\_\_\_

**RAVEN CHAPTER 48 GUIDED NOTES: THE IMMUNE SYSTEM**

1. List and describe four components of the **first line of defense** used by the vertebrate body.

a. \_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

d. \_\_\_\_\_

\_\_\_\_\_

2. List and describe four components of the **second line of defense** used by the vertebrate body.

a. \_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

d. \_\_\_\_\_

\_\_\_\_\_

3. What is the role does the lymphatic system play in immunity?

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4. Outline the significant steps that occur during an inflammatory response and explain how each aids in the fight against infection.

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5. What is an antigen? \_\_\_\_\_

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6. Which lymphocytes are involved in the humoral immune response? \_\_\_\_\_

7. Which lymphocytes are involved in the cell-mediated immune response? \_\_\_\_\_

8. Explain the difference between acquired (active) immunity and passive immunity.

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9. Explain the basic mechanism of vaccines.

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10. Identify several differences between the lymphocytes.

a. B Lymphocytes \_\_\_\_\_

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b. T Lymphocytes \_\_\_\_\_

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11. What are MHC proteins and what role do they play in the immune system?

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12. From what types of attack do T cells protect the body?

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13. What are some of the defensive actions of helper T cells?

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14. What is the role of cytotoxic T cells and describe their mechanism of action?

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15. How do B cells become activated?

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16. When B cells are activated, what do they do?

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17. What are antibodies (immunoglobulins)? Make brief notes about its structure.

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18. Explain why the secondary response to a pathogen is quicker and more robust than primary response.

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19. Explain how HIV can defeat the immune system.

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20. HIV doesn't directly kill people. Then why is AIDS always a fatal disease?

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21. What is antigen shifting and how is it an example of evolution by natural selection?

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22. Explain autoimmune diseases.

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23. What happens when you have an allergy?

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