

**AICE Biology: Ch 14 Jones & Fosbery; Ch 43 Campbell & Reece  
Immunity (J)**

*Read J&F ch 14, DO all SAQ's & Check your answers.*

1. What does it mean to be “immune” to a disease? [1]
2. Briefly summarize the 3 major types of immune defense: physical, chemical & biological. [3]
3. Describe the antigen / antibody relationship. How are lymphocytes involved? [2]
4. Differentiate monocytes, neutrophils, & lymphocytes in terms of appearance, function, & life span. [3]
5. What role do the chemicals histamine and antibodies play in immune response? [2]
6. What are the two types of lymphocytes? How did they get their names? [2]
7. B Cells: Describe the activity of these cells when they recognize a pathogen for the first time (primary infection). Why are secondary infections dealt with much faster? [2]
8. Differentiate between Memory cells & plasma cells in terms of structure & function. [2]
9. What is immunological memory? Why does this not work to prevent us from getting ill from recurring infections of the cold or Flu pathogens? [2]
10. Draw the structure of an antibody and label; variable region, hinge, and light & heavy chains. [4]
11. Describe the 4 classes of antibody in terms of differences in structure, function & location found. [4]
12. Describe six different ways antibodies can act to disable a pathogen (see fig 14.10). [3]
13. T cells: Differentiate Helper T cells from Killer T cells and Memory T cells. [2]
14. Complete the following chart. (see table 14.2) [6]

	How you get it	How long it takes to act	Length of time protection lasts & why
Natural Active Immunity			
Artificial Passive Immunity			
Natural Passive Immunity			
Artificial Passive Immunity			

15. Describe how vaccinations work to confer protection against infectious diseases. [1]
16. Outline some problems with vaccines. Include: variability of individual response, antigenic drift / shift, & antigenic concealment. [2]
17. Discuss the reasons why it was deemed necessary to completely eradicate small pox & how this was accomplished. [2]
18. Why is it so difficult to eliminate Measles in developing countries? Why has eradication been so successful in more developed nations? [2]