Name _____ Period ____ Date _____

VIRUSES

Read 18.1, 18.2 and 18.3. Then answer the following questions.

1. Explain why viruses are not considered to be living organisms.

2. Describe the two structures that are characteristic of viruses.
   1. _____
   2. _____

3. Describe the structure of viroids and prions.

4. Viruses, viroids, prions, and some bacteria can all be considered pathogens. What do all pathogens have in common?

5. Prions were not widely known to be infectious agents until the 1980s. Give two reasons why this might be so.
   1. _____
   2. _____

6. An RNA-based disease spreads through pollen. Is it likely due to a virus, viroid, or prion? Explain.

7. To multiply, viruses must take over the functions of cells they infect. Why does this make it difficult to make effective antiviral drugs?

8. Name and describe the main parts of a typical virus. What is the function of each part?

9. Differentiate between reproduction by the lytic and lysogenic cycles.

10. Researchers studying infection can often grow bacteria more easily than they can grow viruses. What conditions must scientists provide for viruses to multiply?

11. Why is it possible for some diseases to remain undetected for years?

12. If the virus is a foreign invader, how is it possible for the proteins of its capsid to match the receptors on the host cell's surface? Consider natural selection in your answer.

13. Briefly describe how a vaccine can prevent some viral infections.

14. If a vaccine is in short supply, why is it often recommended that older adults and children get vaccinated first?

15. Why might getting a flu vaccination sometimes cause you to get a mild case of the flu?

16. Summarize the process by which HIV infects and reproduces in a cell.

17. People infected with HIV, the virus that causes AIDS, can become unable to fight off infections by organisms that normally do not harm people. Why is this so?