

## Practice Questions for Human Illness

Name: \_\_\_\_\_ Per: \_\_\_\_\_

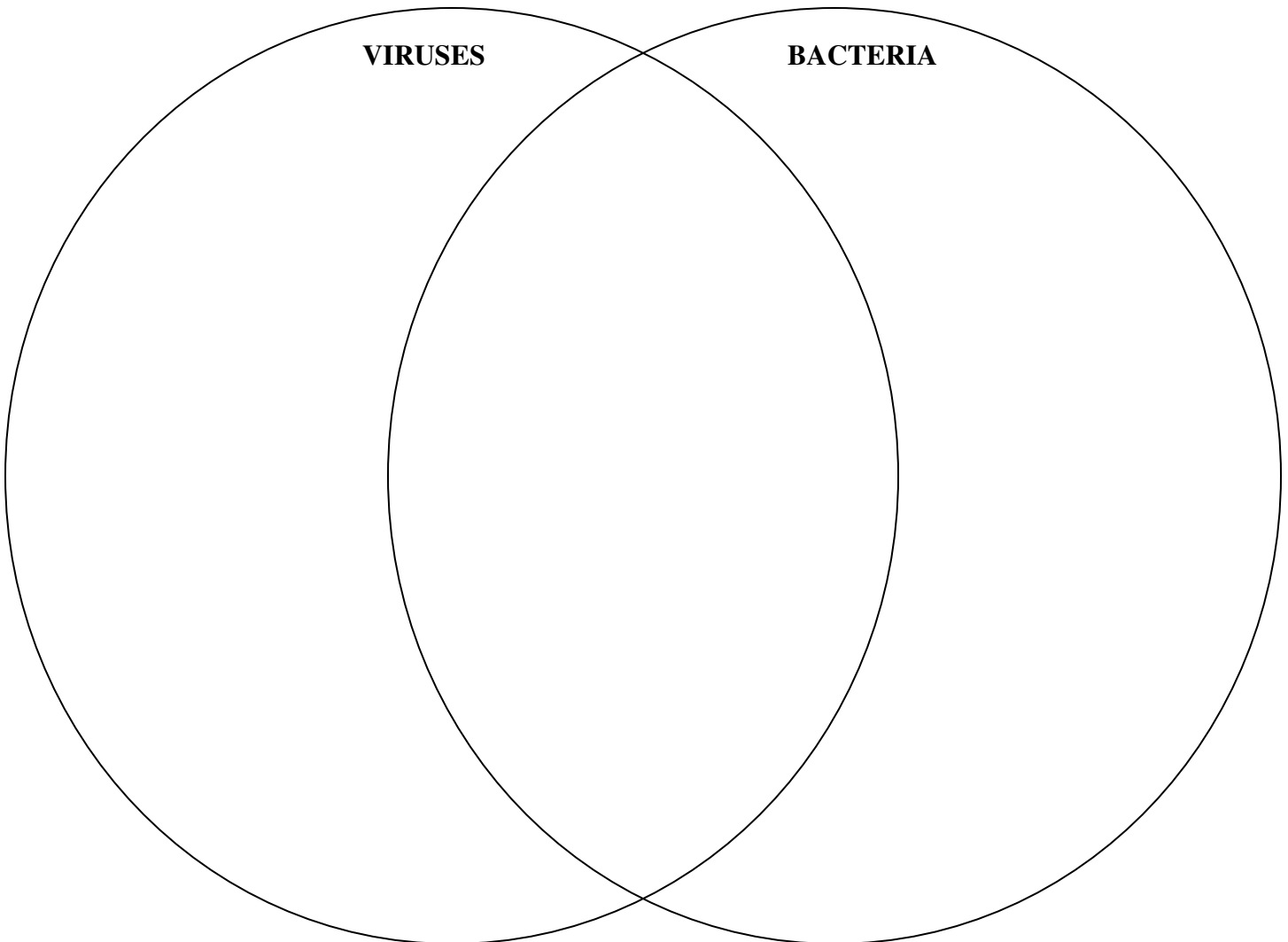
**Directions:** Use your textbook sections on viruses, bacteria, and the human immune system, and lecture notes on human illness to study this material.

### WORD BANK

<b>Pathogen</b>	<b>Bacteriophages</b>	<b>Parasite</b>	<b>Plasma Cell</b>
<b>Vector</b>	<b>Protease</b>	<b>Protozoa</b>	<b>Phagocytes</b>
<b>Bacteria</b>	<b>Retrovirus</b>	<b>Prion</b>	<b>Nitrogen Fixation</b>
<b>Antibiotics</b>	<b>Shingles</b>	<b>Inflammatory response</b>	<b>Helminths</b>
<b>Viruses</b>	<b>Vaccine</b>	<b>Antigen</b>	<b>Ectoparasites</b>
<b>Capsid</b>	<b>Fungi</b>	<b>Antibodies</b>	

1. Life-like organisms that are composed of DNA or RNA surrounded by a protein coat. \_\_\_\_\_
2. A protein that digests other organic macromolecules (viruses use them to digest the cell membrane) \_\_\_\_\_
3. Illness caused by the re-emergence of varicella zoster virus later in life. \_\_\_\_\_
4. Parasitic, multicellular worms. \_\_\_\_\_
5. Any agent (person, animal or microorganism) that carries and transmits an infectious pathogen into another living organism \_\_\_\_\_
6. The protein coat of a virus. \_\_\_\_\_
7. Single celled prokaryotic cells \_\_\_\_\_
8. Viruses that infect bacteria. \_\_\_\_\_
9. Proteins that, when misfolded, can become contagious and cause progressive brain damage. \_\_\_\_\_
10. Agents that cause diseases that spread from person to person or animal to person. \_\_\_\_\_
11. Medicines made with dead or weakened pathogens that help stimulate immunity to an illness. \_\_\_\_\_
12. Process in which the body responds to a wound, including swelling, increased blood flow to the area, and recruitment of phagocytes to the area. \_\_\_\_\_
13. The process in which bacteria convert atmospheric nitrogen in the air into ammonia \_\_\_\_\_
14. Chemical agents that kill bacteria but not viruses. \_\_\_\_\_
15. Eukaryotic cells that live in colonies and may produce spores. \_\_\_\_\_
16. Type of parasite that is a single-celled eukaryotic organism. \_\_\_\_\_
17. Immune cell that produces antibodies. \_\_\_\_\_
18. Proteins that specifically bind to an antigen (each one has two binding sites). \_\_\_\_\_
19. An organism that lives on or in a host organism and gets its food from or at the expense of its host. \_\_\_\_\_
20. Immune cells that engulf and destroys foreign and diseased cells in the body \_\_\_\_\_
21. Substance that triggers and immune response, usually a specific protein that is foreign to the body. \_\_\_\_\_
22. Parasitic insects like fleas, ticks, lice, and mites \_\_\_\_\_
23. Pathogen that contains RNA and a protein coat. HIV is an example of this type of pathogen. \_\_\_\_\_

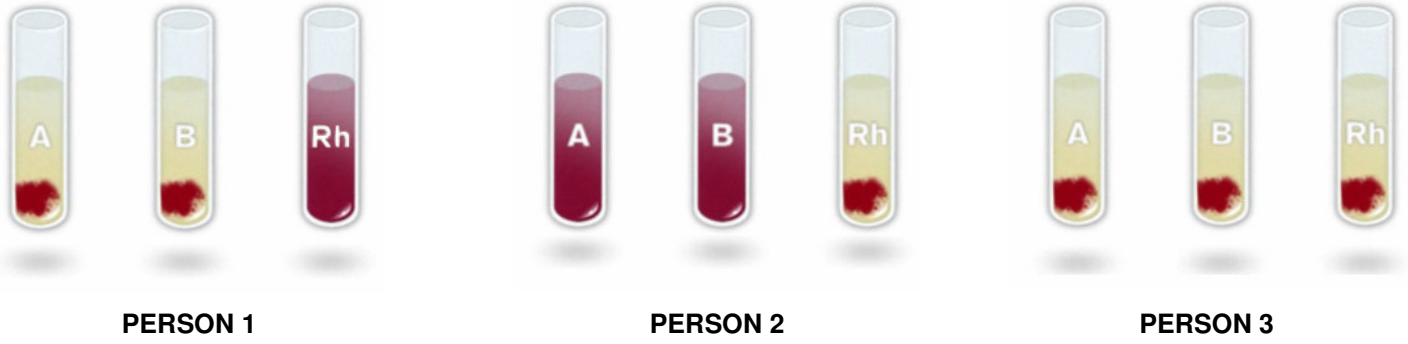
24. What is the vector for malaria?
25. Name a possible vector for rabies.
26. Create a Venn Diagram comparing bacterial infections to viral infections. Be sure to indicate the structural differences between these pathogens, compare how they cause illness and cell death, how they spread, how the immune system combats them, and the medical treatments and preventions for each.



27. How do the size of bacterial cells compare to the size of eukaryotic cells that make up your body?
28. How do antibiotics kill bacteria?
29. What is Alexander Fleming famous for?
30. In what ways are bacteria beneficial to our bodies and the planet?
31. Explain why viruses can only infect certain cells and not all cells:

32. Why do viruses invade cells rather than destroying them from the outside and absorbing their nutrients like bacteria do?
33. Why are some people naturally immune to the HIV virus?
34. Why do retroviruses need reverse transcriptase?
35. What is the difference between a lytic infection and a lysogenic infection?
36. When you have a cold sore, is the virus in the lytic or lysogenic state? Explain.
37. For each of the following, indicate whether it is caused by a virus, bacteria, fungi, parasitic protozoan, parasitic multicellular organism, or prion:
- |                             |           |                          |
|-----------------------------|-----------|--------------------------|
| - Chicken Pox               | - Malaria | - stomach ulcers         |
| - Ring Worm                 | - AIDS    | - Athletes foot          |
| - Creutzfeldt-Jakob Disease | - Ticks   | - E. coli food poisoning |
| - The Flu                   | - Polio   | - Tapeworms              |
38. Why are fungal infections so difficult to treat and cure?
39. Why is there a high incidence of the genetic disorder sickle cell disease in Africa?
40. What is the primary mode of transmission for parasitic helminth infections?
41. What is the primary diet for most ectoparasites?
42. Which body system is affected by prion diseases?
43. What are the three causes of prion diseases?
44. For each of the following, indicate whether it is a specific defense or a nonspecific defense:  
(circle the one that is the primary, first-line nonspecific defense for the body)
- |                          |                         |                    |
|--------------------------|-------------------------|--------------------|
| - cell-mediated immunity | - inflammatory response | - humoral immunity |
| - tears                  | - mucus                 | - saliva           |
| - skin                   | - fever                 | - stomach acid     |
45. What is the primary difference between humoral immunity and cell-mediated immunity?
46. The purpose of vaccines is to stimulate immunity to specific pathogens. Which types of immune cells are created that maintain a person's immunity to a specific pathogen?
47. How are killer T cells activated?

48. The first test tube has antibodies against type A blood. The second test tube has antibodies against type B blood. The third test tube has antibodies against blood with Rh factor. Three teens were in a severe accident and all three victims need blood. They were rushed to the hospital and enroute their blood was tested to determine what type of blood transfusion each could be give. Which blood types would be safe to give to each person below.



49. What causes autoimmune disorders?