Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_ Block #: \_\_\_\_\_

**VECTORS WORKSHEET**

**1**Among all vectors, ticks have the distinction of transmitting the widest diversity of microbes that are harmful to humans. Ticks can harbor and transmit a wide diversity of pathogens simultaneously. Viruses, bacteria, and protozoan parasites are all transmitted by ticks. Most health problems in humans result from pathogens being transmitted to humans from ticks during blood meals. The most commonly reported vector-borne disease in the USA is Lyme disease, which is caused by infection with Borrelia burgdorferi, a bacterial spirochete.

1. What is the vector?

2. Who is the host?

3. What type of infectious disease is being spread mainly by ticks?

4. How does the host get the infectious disease?

5. Lyme disease is caused by a bacterial in what shape?

**2**Mosquitos can transmit a number of diseases from animals to people. These diseases may be caused by viruses or parasites that are transferred through the mosquito’s bite during a bloodmeal from an infected host and a subsequent bite, bye that same mosquito of an uninfected host. The diseases are usually limited in location by the environmental requirements of the virus or parasite, its host, and the transmitting mosquito, but may be spread to other areas under favorable conditions. The most commonly known of these diseases in the United States is West Nile virus or West Nile fever.

6. What is the vector?

7. Who is the host?

8. What type of infectious disease is being spread?

9. How does the host get the infectious disease?

**3**Plague, caused by a bacterium, Yersinia pestis, is a disease of wild rodents that can afflict people. In the past century, plague caused severe epidemics in many parts of the world, resulting in human deaths and severe economic losses. Human cases of plague in the U.S., while not numerous, are largely due to contact with infected rodents. As residential areas encroach on plague outbreak or endemic areas, tracking trends in plague transmission becomes more and more critical. Ground-dwelling rodents, like prairie dogs in the western U.S. are particularly susceptible to plague. Prairie dogs are considered a "keystone" species, serving a critical role in maintaining the biotic diversity and integrity of the western grasslands. Sylvatic plague was specifically identified as the most serious threat to the continued existence of the black-tailed prairie dog species over significant areas of its range.

10. What is the vector?

11. Who is the host?

12. What type of infectious disease is being spread?

13. How does the host get the infectious disease?

14. Match the following vector with the correct infectious disease.

\_\_Mosquito-borne a. Lyme Disease

\_\_Rodents b. Plague

\_\_Tick-borne Rodents c. West Nile Virus

15. The most commonly reported vector-borne disease in the USA is \_\_\_\_\_\_\_\_\_\_\_\_\_.

16. Is West Nile virus the only thing mosquitos can transmit?