Name _____

Differences Between Bacteria and Viruses Answer Key

1. Bacteria primarily reproduce through binary fission, where one cell divides into two identical daughter cells.

2. Bacteria can acquire antibiotic resistance through genetic mutations or by obtaining resistance genes from other bacteria through horizontal gene transfer.

3. Bacteriophages are viruses that infect bacteria. They can help control bacterial populations by infecting and killing bacteria, acting as natural predators.

4. A pandemic is a global outbreak of a disease that affects a large number of people in different countries or continents. An endemic refers to a disease that is constantly present in a particular population or region at a relatively low level.

5. Bacteria are used in the fermentation process to produce yogurt and cheese. They convert lactose into lactic acid, which gives yogurt its tangy taste and helps in the curdling of milk for cheese production.

6. Koch's postulates are a set of principles used to determine whether a particular microorganism causes a specific disease. They provide a standard method for establishing a causal relationship between a microbe and a disease.

7. Viruses enter host cells by attaching to specific receptors on the cell surface and then either fusing with the cell membrane or being taken up by the cell through endocytosis.

8. Viruses can be transmitted through various routes, including respiratory droplets (coughing, sneezing), direct contact (touching infected surfaces), vectors (insects), and contaminated food or water.

9. Certain bacteria, such as Rhizobium, can convert atmospheric nitrogen into a form that plants can use. This process, called nitrogen fixation, helps in enriching the soil with nitrogen.

10. Bacteria are prokaryotic cells, meaning they lack a nucleus and membrane-bound organelles. Viruses, on the other hand, are non-cellular entities consisting of genetic material (DNA or RNA) surrounded by a protein coat.