

Name \_\_\_\_\_ Date \_\_\_\_\_ Sci \_\_\_\_\_

## **Chapter 10 Bacteria and Viruses Study Guide**

**Use the following terms to create your own format of a Study Guide to review for several days prior to the unit test.**

### **Bacteria**

**Domain of abundance  
Unicellular, prokaryotic, binary fission, flagella, endospore  
Bioremediation  
Pathogenic  
Nitrogen-fixing  
Producer, consumer, decomposer  
Cyanobacteria  
Changing lactose to lactic acid  
Shapes - Round (cocci), Rod (bacilli), Spiral (spirilla)  
Genetic engineering  
Antibiotic  
Harmful, helpful**

### **Archaea**

**Domain liking areas with little or no oxygen  
Heat lovers  
Methane lovers  
Salt lovers**

### **Virus**

**Not alive, no typical cell parts  
Protein coat, genetic material, require a host to replicate viral parts, destroys host  
Lytic cycle  
Lysogenic cycle  
Vaccinations  
Antiviral  
Shapes – cylinder, space craft, crystal**

# CHAPTER 10 STUDY GUIDE BACTERIA AND VIRUSES

## BACTERIA – Domain of Abundance

Prokaryote-an organism that consists of a single cell that does not have a nucleus

Binary Fission- A form of asexual reproduction in single-celled organisms by which one cell divides into two cells of the same size

1. The cell grows
2. The DNA is copied and attached to the membrane
3. The DNA and its copy separate.
4. The cell splits in two and each new cell has a copy of DNA

Flagella- hair like parts that help bacteria move around; spin to push a bacterium through water or other liquids (spirilla)

Endospore- a thick walled protective spore that forms inside a bacterial cell and resists harsh conditions

They remain inactive until the conditions they want happen

Bioremediation- using organisms to turn harmful substances into helpful substances

Can clean up oil spills, industry mess, farms, cities, and pollution from soil

Pathogenic bacteria – bacteria that cause disease

Cyanobacteria – example of producers, usually live in water, contain chlorophyll, have red pigment, flamingos eat them to get pink

Nitrogen-fixing Bacteria – bacteria that turn the nitrogen in the air to something that plants can use

1. Nitrogen in air enters soil
2. Bacteria change it to a form plants can use
3. Animals get their nitrogen from eating plants

Producer – the bacteria that use energy from the sun to make food; contain chlorophyll (cyanobacteria)

Decomposer – Feed on dead organisms, plants, and trees  
Makes nutrients available to other organisms, cleans up environment

Consumer - Get food by eating other organisms

Changing lactose to lactic acid – the bacteria that break down the sugar in milk (lactose) Change it to lactic acid.

Lactic acid – preserves and adds flavor to food (pickles, bread, milk, yogurt, cheese)

Cocci – round, spherical, small surface area, dense, do not dry out quickly

Bacilli – rod, large surface area, dry out quickly

Spirilla – spiral, move like corkscrew

Genetic Engineering – when scientists change genes of an organism

-back since 1973

-make: insecticides, cleansers, adhesives

Antibiotic – medicine used to kill bacteria and other microorganisms

-used for a bacterial infection

-is not useful against viruses

## ARCHAEA Domain liking areas with little to no oxygen

Heat lovers – live in ocean vents and hot springs 60-80 degrees C (Yellowstone National Park)

Methane Makers – release methane gas, live in swamps and animal intestines (cow butt)

Salt Lovers – live in high levels of salt (Dead Sea, Great Salt Lake)

## VIRUSES - Not living with no typical cell parts

Protein Coat – head, holds genetic material

Genetic Material – used to replicate itself

\*Requires a host to replicate its viral parts and then it destroys the host

Lytic Cycle – The way that viruses come in contact with a host and replicate themselves. (happens right away – short name, short time of destruction)

1. Locates host cell
2. Genetic Material is injected into host
3. The genes turn the cell into a viral factory
4. New viral parts are made
5. The new viruses break out and the cycle begins again

Lysogenic Cycle – Almost the same. #4 is postponed for a long time, before the genes activate (Long name, long time before you feel symptoms) AIDS/HIV

Vaccinations – shots to help jump start immunity to a disease (tetanus, small pox etc..)

Antiviral – Similar to antibiotic but does not work with bacteria, only viruses

Cylinder – tobacco mosaic virus

Space Craft – attacks bacteria

Crystal – polio virus

Spheres – flu, HIV