

# Life Science Homework

Week's topic- Bacteria

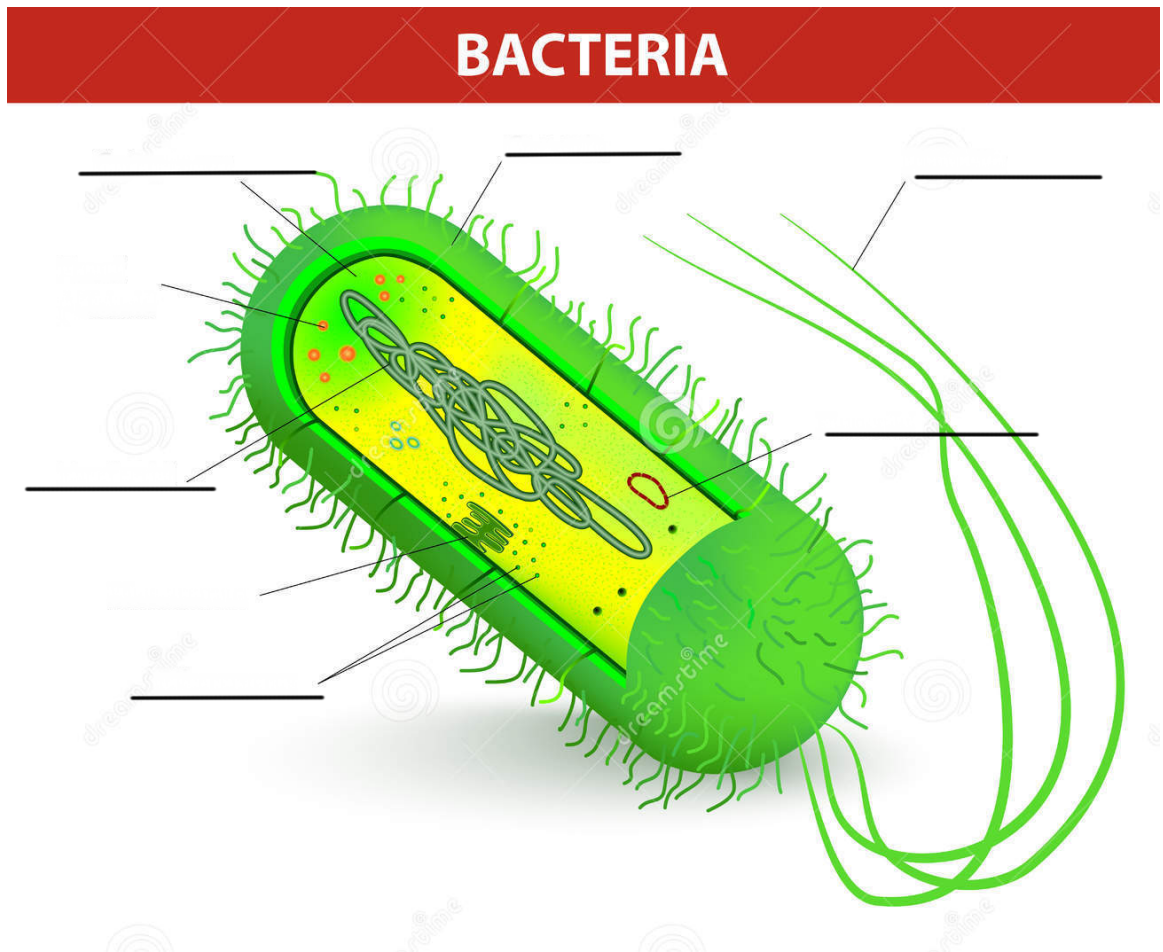
Name: \_\_\_\_\_

Date due: \_\_\_\_\_

1. In your own words, what is a bacterium? (Pleural= Bacteria)

2. Label the marked structures.

Word bank: Capsule, Plasmid, Ribosomes, Nucleoid, Flagella, Cytoplasm





# LIFE SCIENCE QUIZ

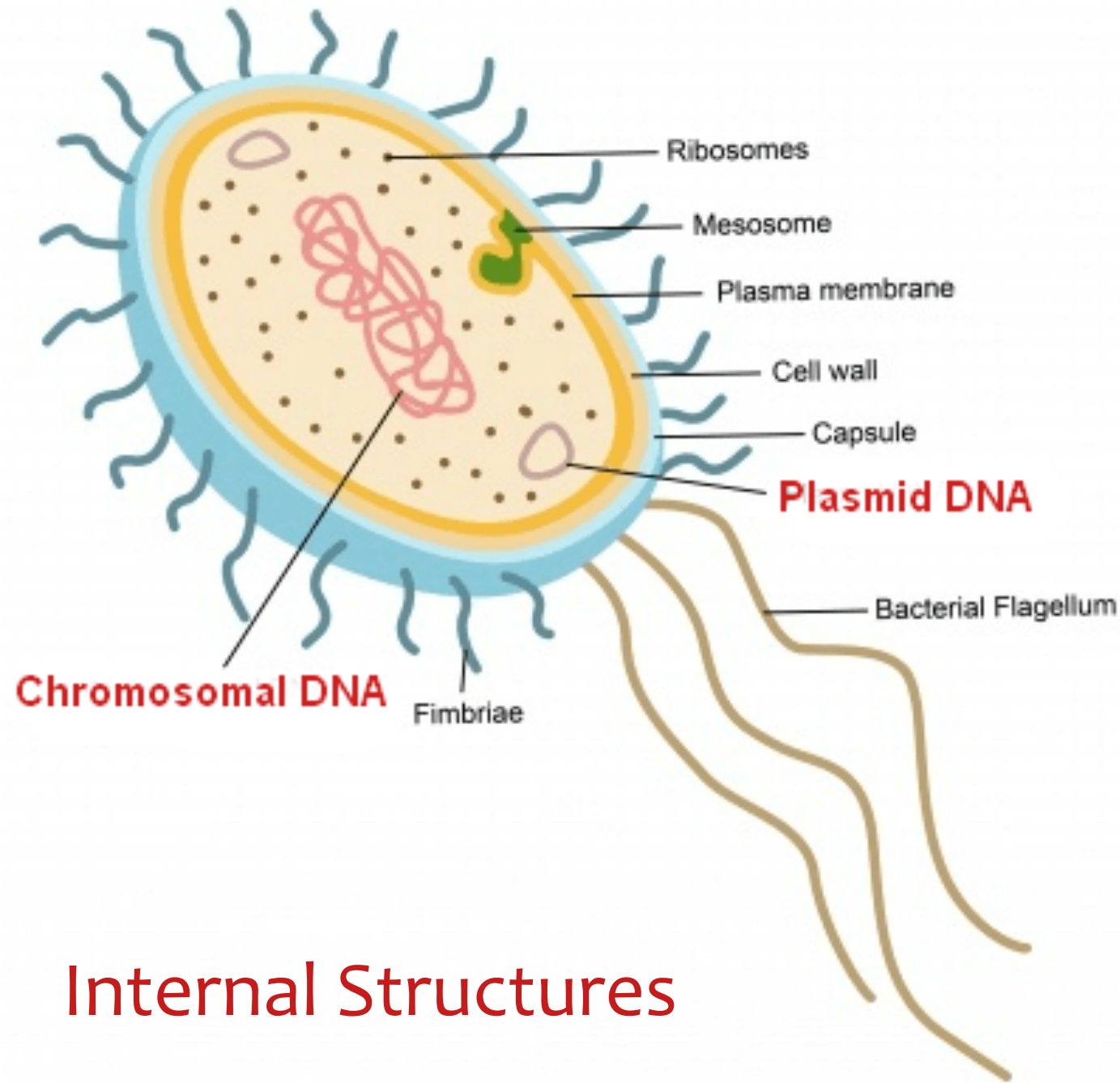
**Name:** \_\_\_\_\_

1. Prokaryotes are similar to Eukaryotes in all respect except:
  - a. They have Ribosomes
  - b. They have a cell membrane
  - c. They have membrane bound organelles
  - d. They have DNA
  
2. True or False: Bacteria are always harmful to humans.
  
3. This structure forms when the bacteria is exposed to unfavorable conditions like drought or freezing temperatures:
  - a. Endospore
  - b. Pili
  - c. Flagella
  - d. DNA
  
4. What are the three possible shapes of a bacterium?
  - a.
  - b.
  - c.
  
5. True or False: Bacteria cannot be transmitted though the air.
  
6. True or False: We can not see a single bacterium with the naked eye.
  
7. EXTRA CREDIT: What does the Pili do? (Write in complete sentences)



# Bacteria

A Visual Guide



What is the difference between the Bacterial Chromosome and the Plasmid?

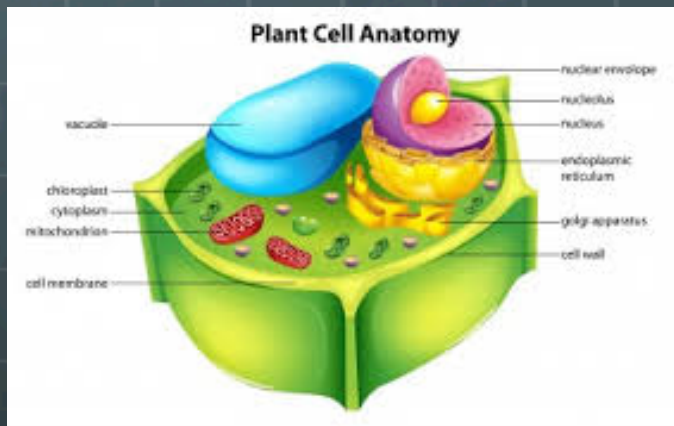
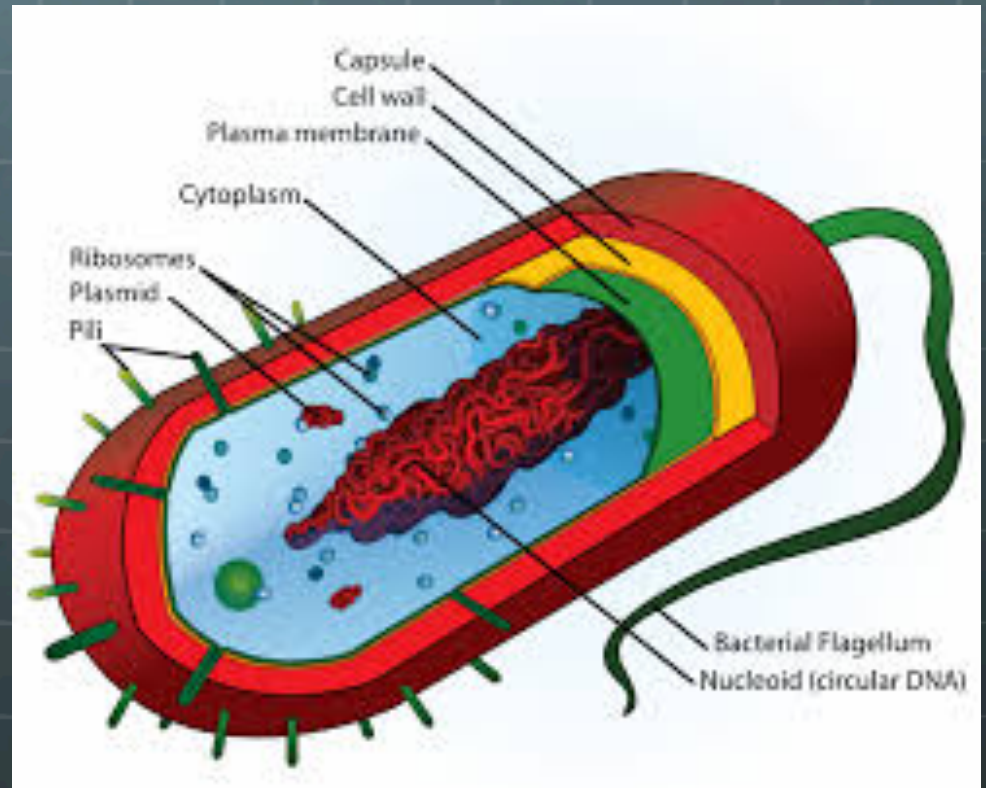
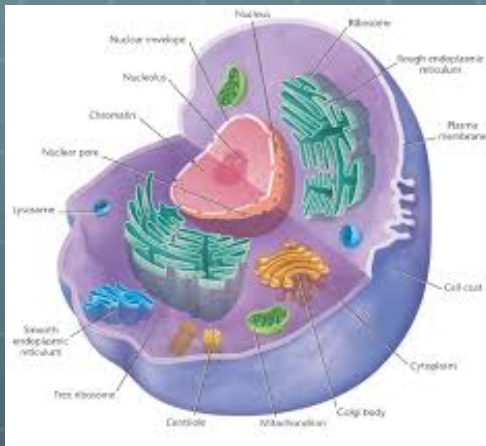
Where are the ribosomes found?

## Internal Structures

# Cell membrane vs. Cell wall

## Vs.

# Cellular Envelope vs. Capsule



# Appendages



Pilus



Fimbriae



Flagella

# Shapes



Bacillus (Rod-like)



Cocci  
(Spherical)

Spiral

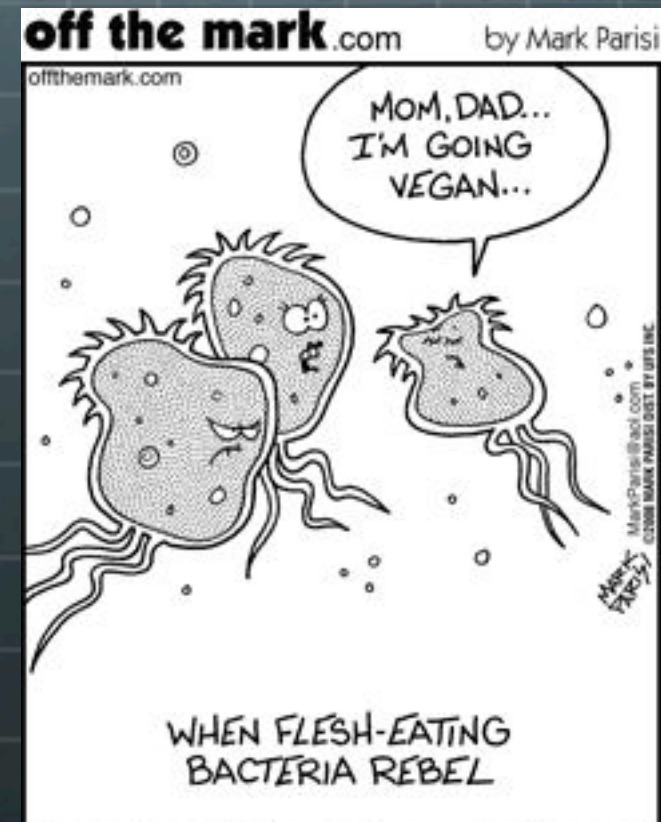
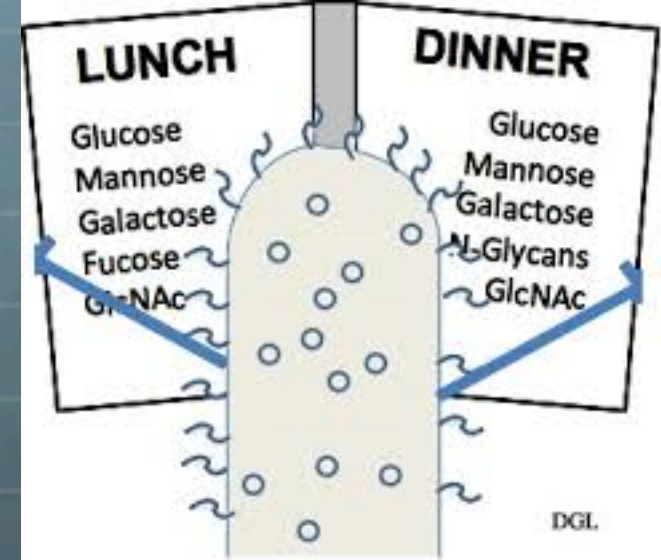




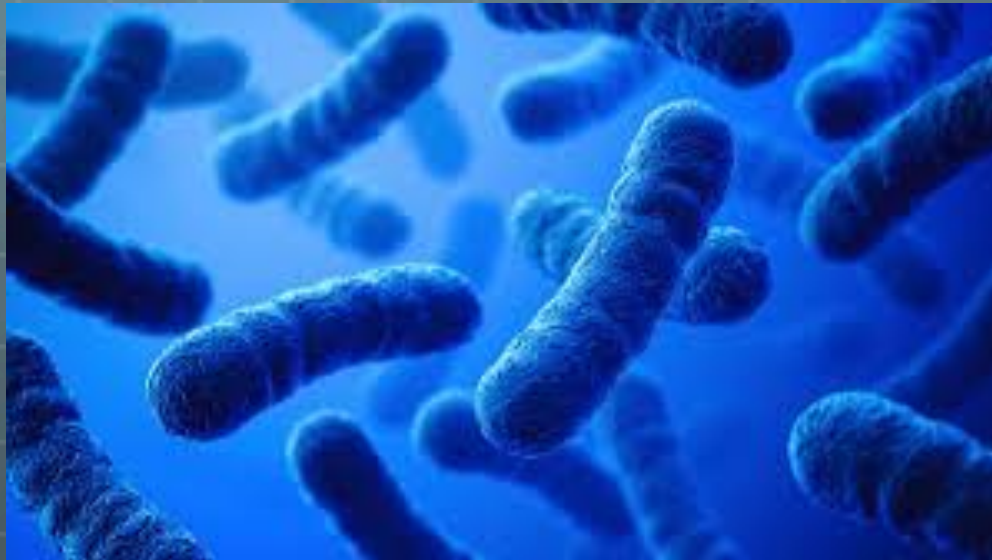
What do they eat? Sugars!  
Just like our cells

How do bacteria eat?

1. Create their own food from the sun (like plants)
2. Absorb and engulf food from their environment
3. Attack other living things



# Where do bacteria live??



Discuss with your neighbor.  
Hypothesis 5 places where you  
think you would find bacteria?

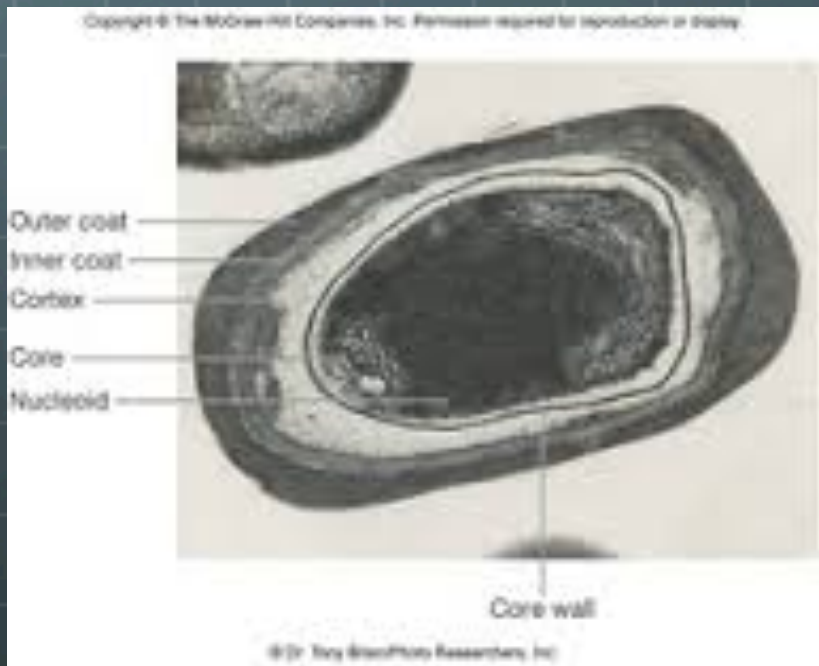
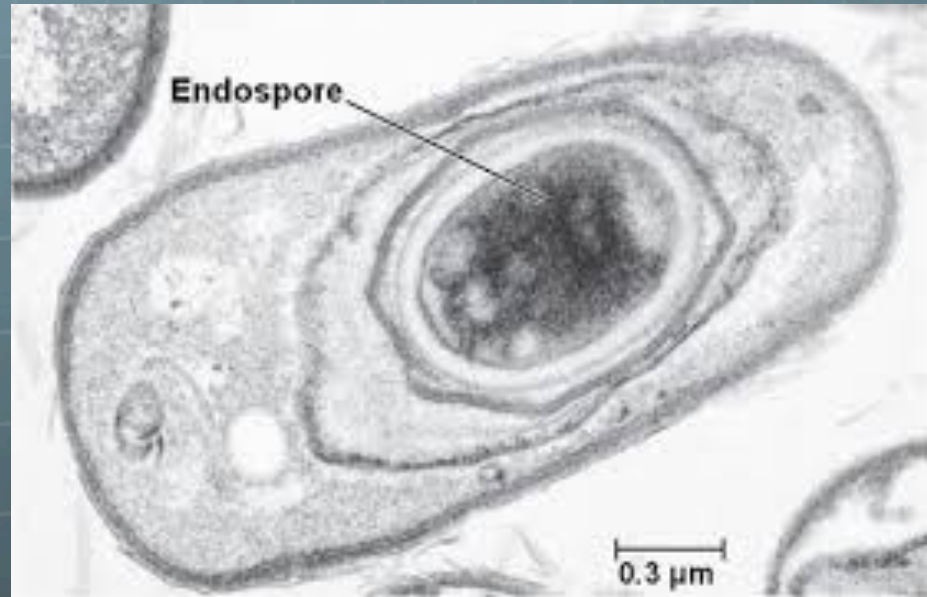
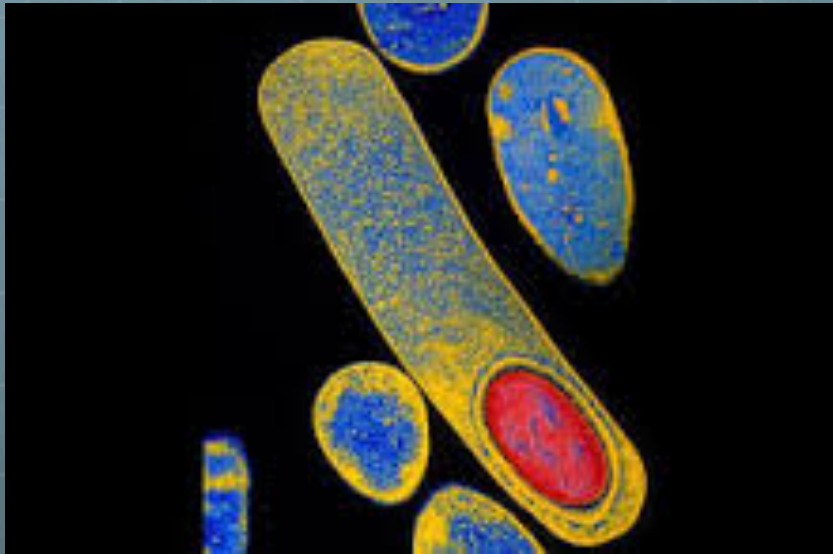


Everywhere!!!

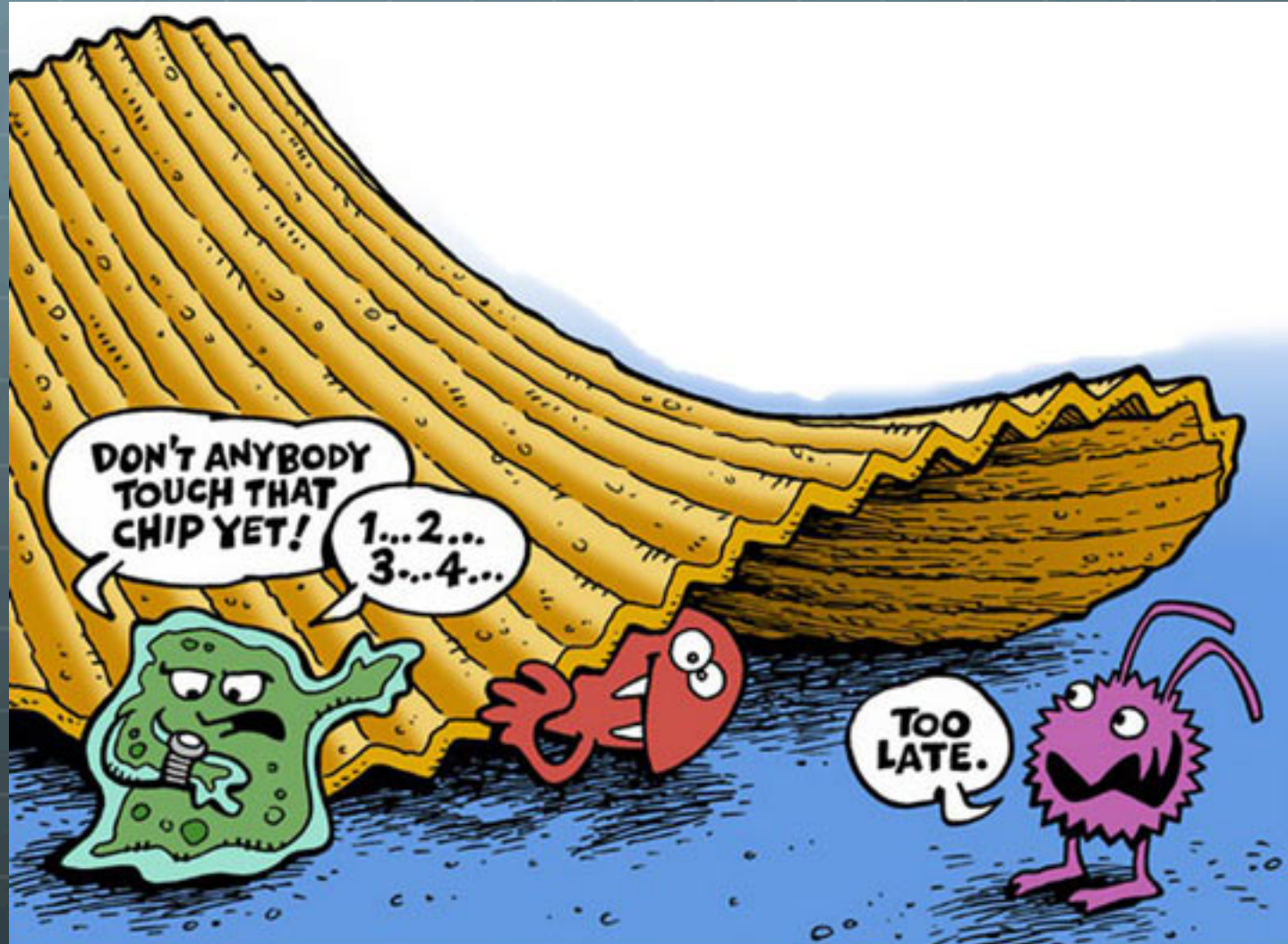


# Natural flora!





# Bacteria Joke!!!



# Life Science Homework

Weekly topic: Viruses

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

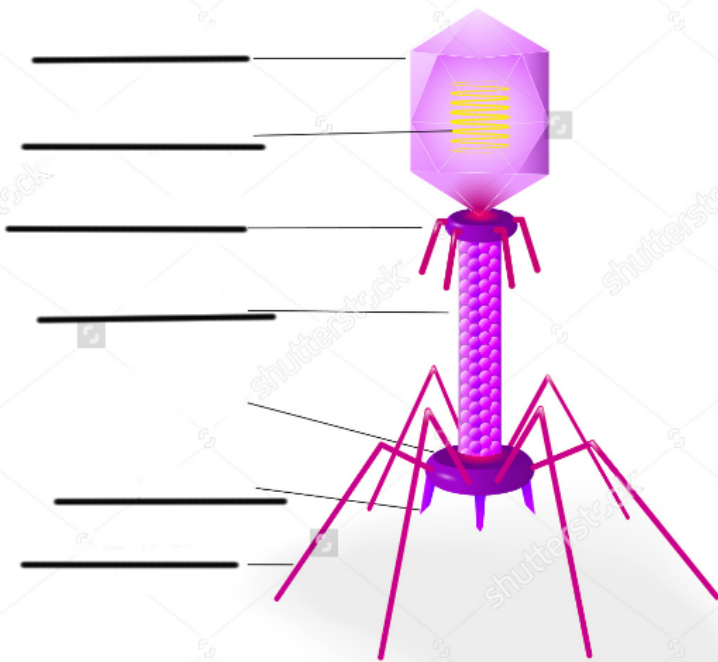
Date Due: \_\_\_\_\_

1. In your words, what is a virus? Is it alive?

2. Label the marked structures

Word Bank: Capsid head, DNA or RNA, Collar, Sheath, Spike, Tail fiber

## Structure of bacteriophage



3. What is the difference between Latent and active viruses?

4. How do viruses replicate?

5. What is a vaccine? What is a "Vaccine war?"

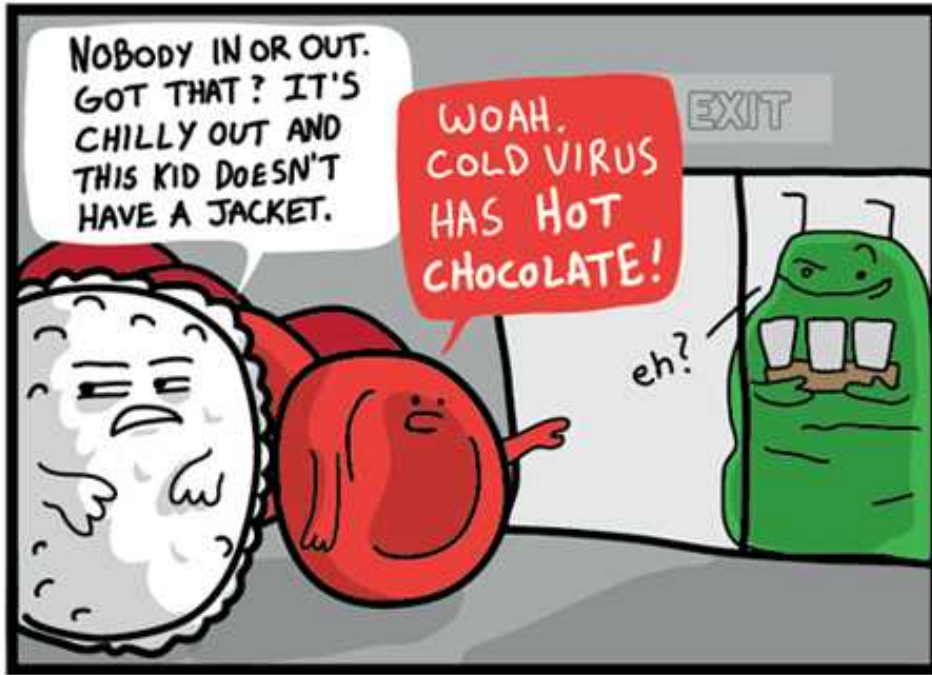




# Viruses

A Visual Guide

# WHITE BLOOD CELL VS. THE COMMON COLD



But first: Jokes!!!



© 1997 by Randy Glasbergen. E-mail: randyg@norwich.net  
<http://www.norwich.net/~randyg/toon.html>



**“I couldn’t do my homework because my computer has a virus and so do all my pencils and pens.”**

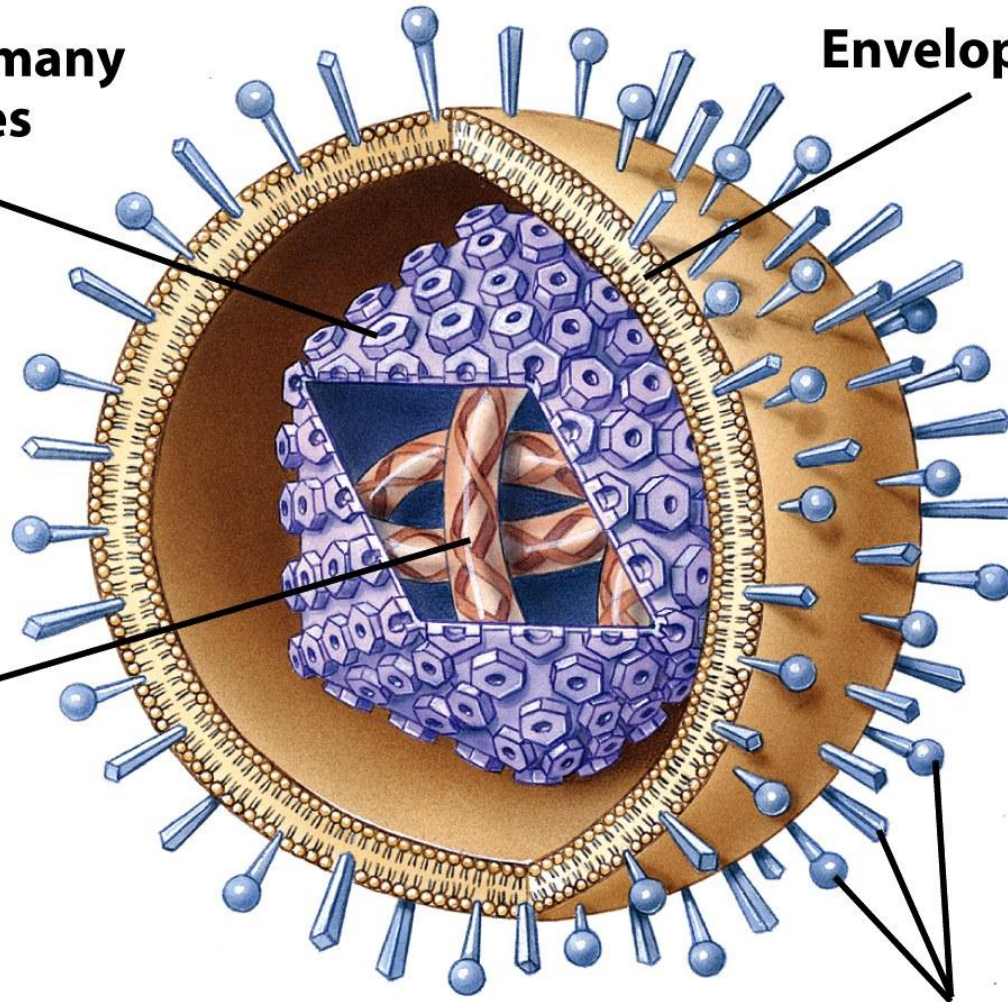


# Structures of a virus

**Capsid,  
composed of many  
capsomeres**

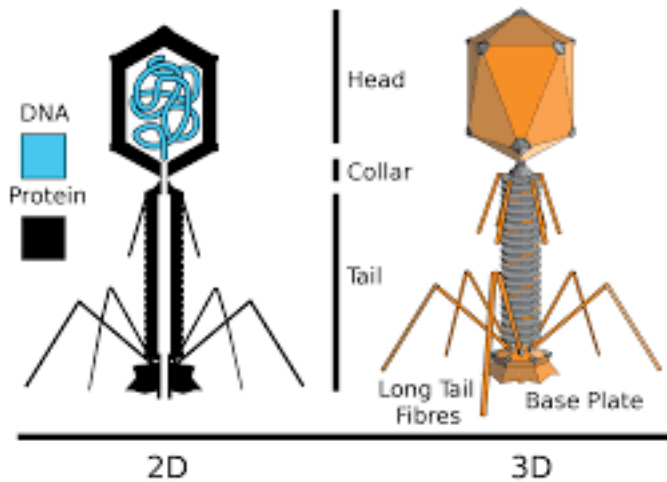
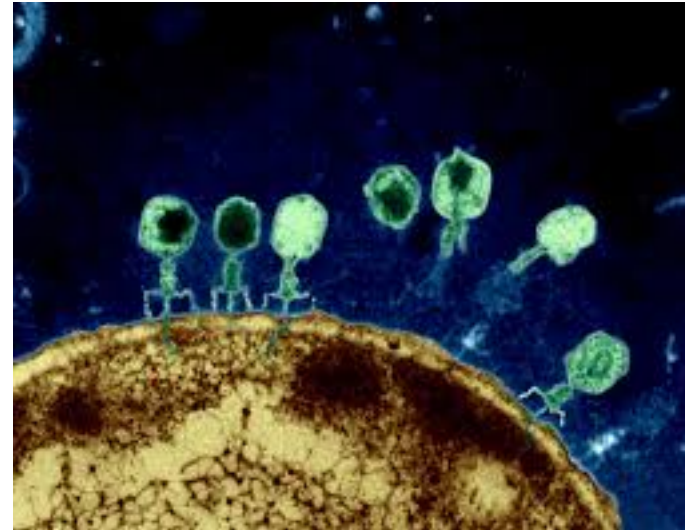
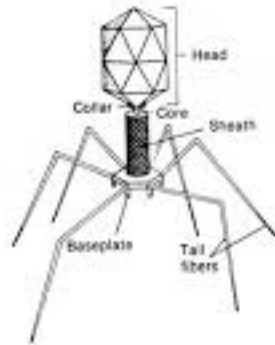
**Envelope**

**Nucleic acid  
(DNA) core**

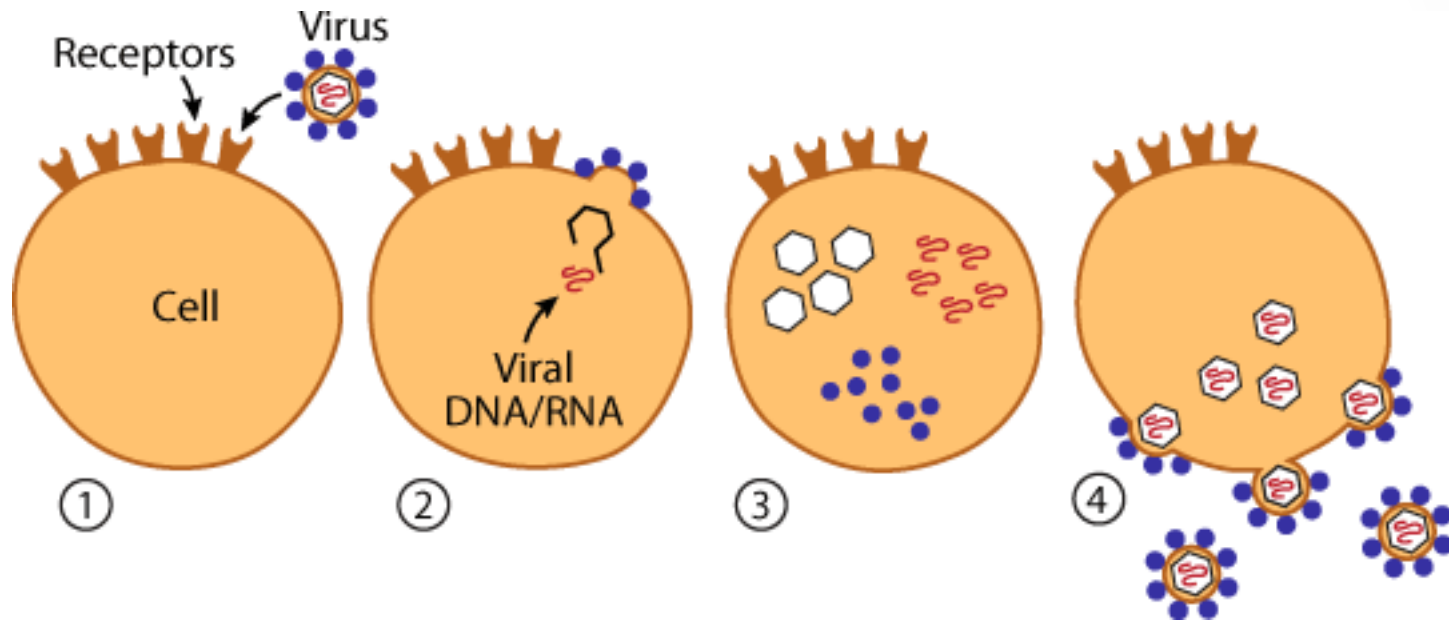


**Spikes**

# Phage- a virus that infects a bacteria



# Viral Infection



Note: Students will receive this document for the out-of-class vocab review assignment.

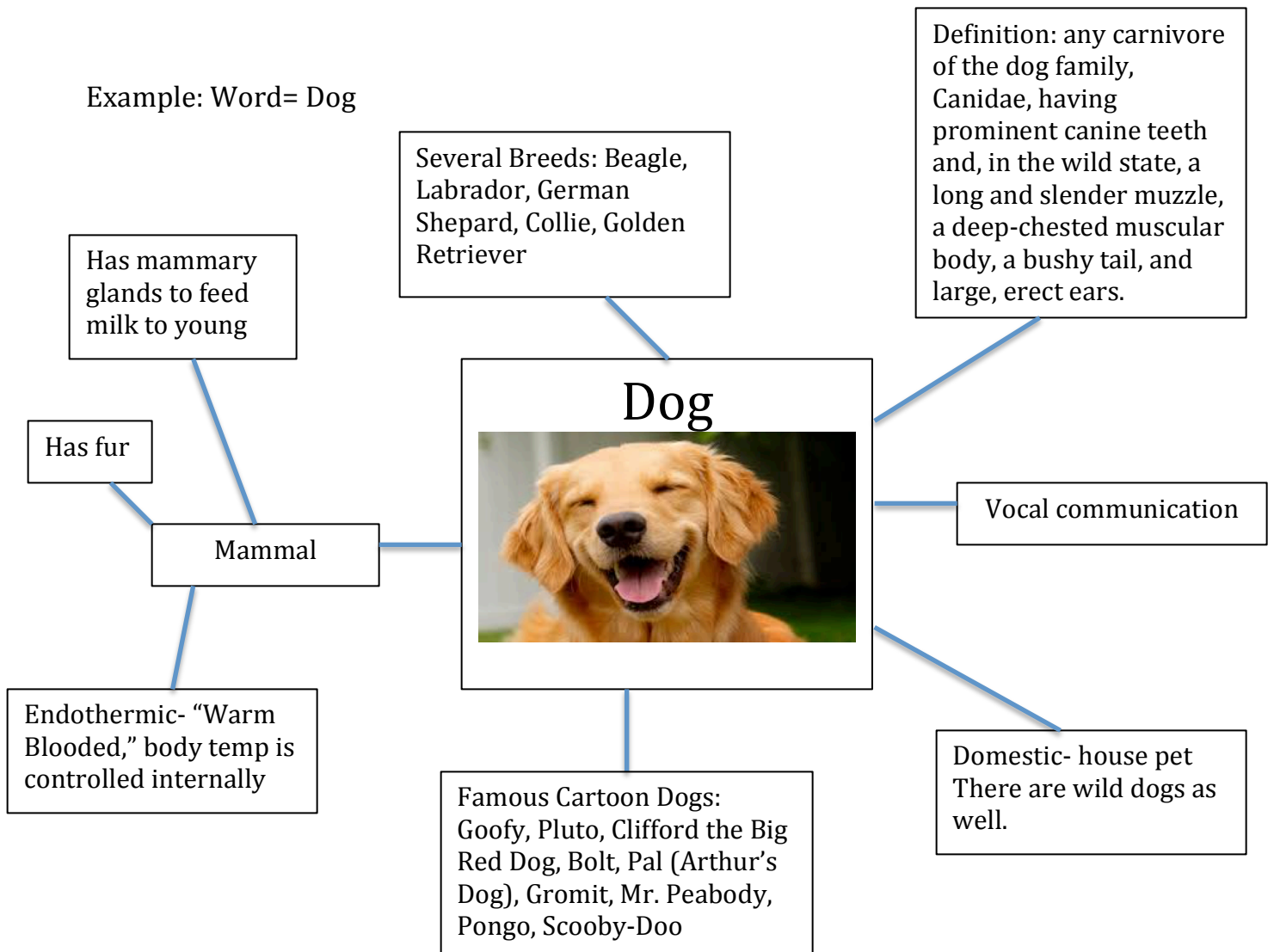
## CONCEPT MAP

Please choose **5 words** from the Word Bank and create a concept map defining each of the 5 words. What general features does the word have? What does it look like? **Each word should have at least 6 sub-points, and 1 Sub-point must have 3 sub-points.** You can provide picture if needed. You are encouraged to pick a word that you don't know a lot about yet, so this activity can help you when you study for the exam. It can be typed hand written. See the example below.

### Bacteria and Virus Unit Word bank:

Eukaryotic, Prokaryotic, Bacteria, Plasmid, Capsule, Flagella, Fission, Conjugation, Aerobic, Anaerobic, Natural Flora, Nitrogen Fixation, Bioremediation, Antibiotics, Bacterial Resistance, Pasteurization, Disinfectant, Antisepsis, Virus, Host cell, Immunity, Antibody

Example: Word= Dog



Note: This is a teacher only document.

## IN-CLASS VOCAB REVIEW GAME: **VOCAB RELAY**

### **How to play:**

Each student will be given a notecard with a definition and a vocab term on it (front and back respectively). The definition and vocab term on the same card but do not correspond to each other. Student A starts the game by reading the definition on his/her card at the far side of the room. The rest of the class is on the other side of the room wait in anticipation for the definition of their vocab word to be called. When the Student A finishes reading his/her definition, Student B with the corresponding vocab term says the answer OUT LOUD, runs over to the opposite side of the room, tags Student A's hand, and then switches places with that Student A. Then Student B reads the definition on the back of their card, and another student runs over to replace that student. If both sides of the card are completed, the notecards are placed in a little bin. The game ends when all the notecards are in the bin.

### **Goal:**

The goal is to complete all the notecards in the shortest amount of time.

### **Objective:**

The objective is to increase the student's automaticity of the vocab terms and their definitions.

### **Game variations:**

1. Create two teams that compete with each other to finish all the cards in the shortest amount of time.
2. The notecards contain things other than vocab and definitions.
3. Students have to organize themselves in a circle to that the vocab and definition of all the terms are neighbors in the shortest amount of time.

The vocab words and definitions will be taken from the