Virtual Fieldtrip Through the Cell **Due Friday, October 8th** Name: _____

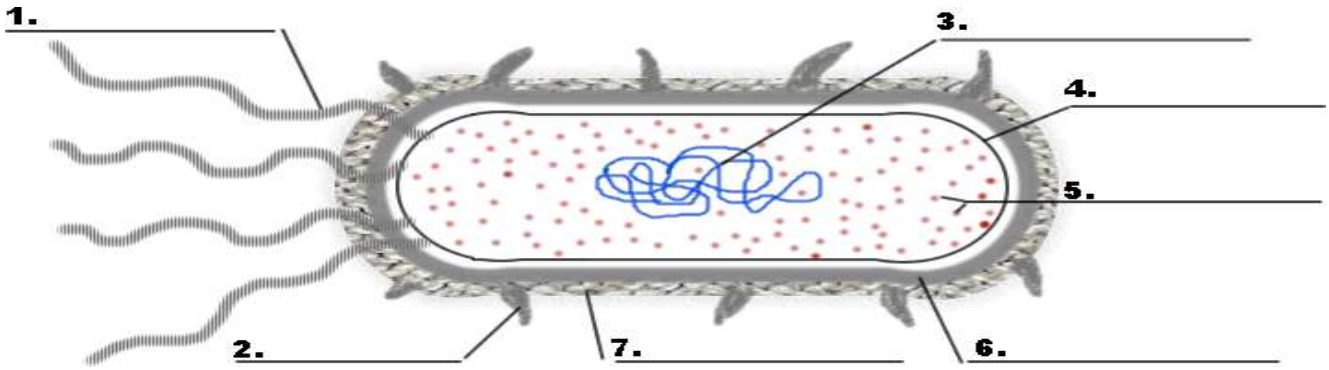
- Go to http://www.cellsalive.com/cells/3dcell.htm
- Once there, work through and read the available information. Use that information to answer the following questions.

Part A. "HOW BIG IS A...."

Here you will look at objects found on the head of a pin. Your job is to rank them in order of size on the chart below and estimate the length of each (in nanometers, micrometers, or millimeters). The line in the bottom right corner of the screen is used to help you estimate.

Object	Sketch Sketch each of the objects.	Size in nanometers, micrometers or millimeters
Human hair		
Dust Mite		
Red Blood Cells		
E. coli		
Staphylococcus		
Ebola virus		
Rhinovirus		

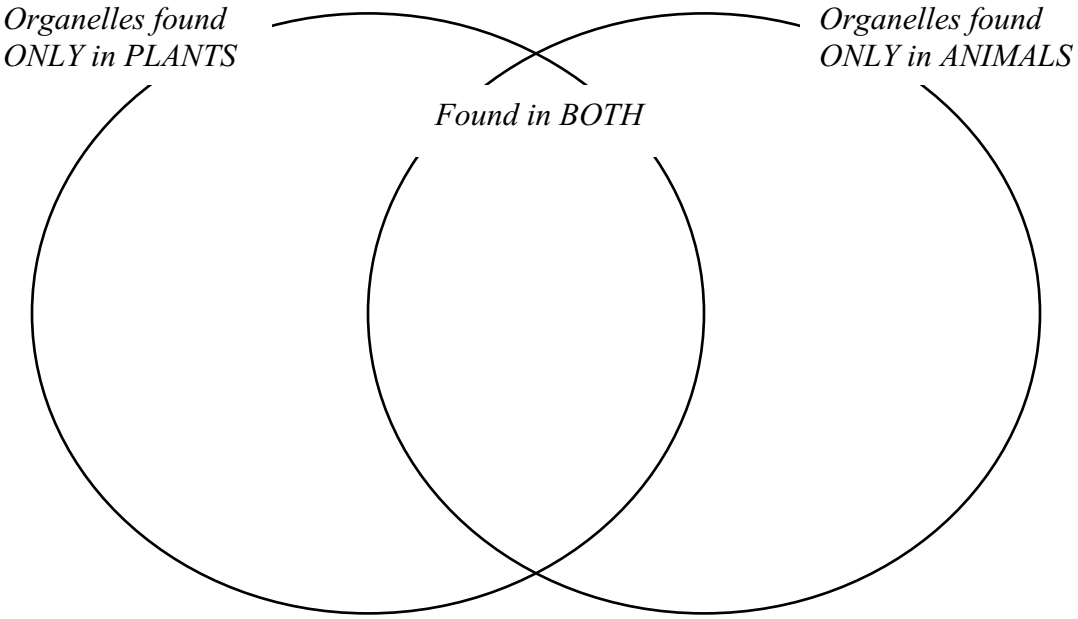
Part B: Bacterial Cell Model (return to the "Cell Biology" link to access this page or hit the back button)



Part C: Eukaryotic Cells

1) Distinguish between eukaryotic and prokaryotic cells.

2) Use the Venn diagram to compare the organelles found in plant and animal cells. Create a color code to use for organelles found in plants, animals, and both. For example, organelles found in plants can be written in green, animal organelles can be orange, and organelles found in both can be blue. Use this same color code in question 5.



3) Identify the function of the following organelles. In the function section, form an analogy between the cell organelle and part of a city, school, car, etc. For example, the nucleus of the cell is like the principal's office at a school; they both control the activities. Also consider whether that organelle is found in plant cells, animal cells or both?

Organelle	**Function (with Analogy)**	**Plant, Animal, or Both?**
Nucleus	Analogy: A nucleus is like a _____ because	
Cell Membrane	Analogy:	

Cell Wall	Analogy:	
Mitochondria	Analogy:	
Chloroplast	Analogy:	
Golgi Body	Analogy:	
Endoplasmic Reticulum	Analogy:	
Vacuole	Analogy:	
Lysosome	Analogy:	
Centrioles	Analogy:	

4) Which organelle allows plants to be autotrophic? Defend your answer.

5) What do you think would happen to a cell that lacked lysosomes?

6) Animal cells easily rupture and burst, but plant cells rarely do. Referring back to the organelles of plant and animal cells, explain why this is true.

7) What do you think would happen to a cell that lacked Golgi bodies?

8) Why does the rough ER appear pebbled?

9) Ribosomes are the site of what process?

10) What do lysosomes contain?