

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

### Welcome to the Study of Cells

As you've learned, cells are the smallest unit that are considered alive. We are going to discover how cells can be alive. How can they do all the functions necessary to keep you alive?

The information that you find in this assignment will help you understand the shapes, function, and placement of the parts of three different cells: Bacteria, Animal, and Plant. You will need to know how these cells are the same and how they are different. The internal parts of cells are called **organelles**, some of which may be bound by a **membrane** (like a thin, flexible sack or balloon). **Chapter 7 in your book will help you today if you need definitions or further explanation!!!**

For today's assignment, go to [www.cellsalive.com](http://www.cellsalive.com). In the upper left-hand corner, you will see the website's Contents section. Click on "Cell Biology". That should take you to a Table of Contents page for cell biology. Click on "Cell Models", which is the second choice listed.

**Part I.** *You should be at a page titled, "Plant, Animal, and Bacterial Cell Models". Use the information on this page to answer the following questions.*

1. List the two types of living cells and describe each **in your own words** so that you understand the difference between the two:

a. \_\_\_\_\_

b. \_\_\_\_\_

**Part II.** Click on the "Take me to the BACTERIAL CELL" link. Look at the bacteria cell diagram and explanations of its structure, and then answer the following questions:

2. Do bacteria have simple or complex internal structures? \_\_\_\_\_

3. Are bacteria's organelles bound by a membrane? \_\_\_\_\_

4. Which organelle in bacteria produce proteins? \_\_\_\_\_

5. Do bacteria have DNA? \_\_\_\_\_ If so, in what structure is it found?

\_\_\_\_\_

6. What does the cell wall do for the bacterial cell? \_\_\_\_\_

\_\_\_\_\_

7. What are flagella? \_\_\_\_\_

\_\_\_\_\_

**Part III.** At the top of the bacterial cell page, you should see a link at the top called "Plant and Animal Cell Animation". You should be at a page titled "Eukaryotic Cell Interactive Animation". Click on the Plant Cell link beneath the diagram. (you can also get there if you hit the back key: you will see the animal cell, which you can click and then click on the Plant Cell link beneath the diagram). Find the different parts of a plant cell by moving your cursor around the cell and clicking on the structure or organelle. Fill in the following chart using the information provided. For the last column, you will need to review an animal cell!

Structure or Organelle	Draw the Structure or Organelle as you see it!	Describe Its Function(s)	Is it in Plant Cells only, Animal Cells only, or Both?
Nucleus			
Nucleolus			
Cytosol			
Centrosome			

<b>Structure or Organelle</b>	<b>Draw the Structure or Organelle as you see it!</b>	<b>Describe Its Function(s)</b>	<b>Is it in Plant Cells only, Animal Cells only, or Both?</b>
Centriole			
Golgi Apparatus/ Body			
Lysosome			
Cell Membrane			
Mitochondrion			
Vacuole			
Cell Wall			
Chloroplast			

<b>Structure or Organelle</b>	<b>Draw the Structure or Organelle as you see it!</b>	<b>Describe Its Function(s)</b>	<b>Is it in Plant Cells only, Animal Cells only, or Both?</b>
Smooth Endoplasmic Reticulum			
Rough Endoplasmic Reticulum			
Ribosomes			
Microfilaments and Tubules (Cytoskeleton)			