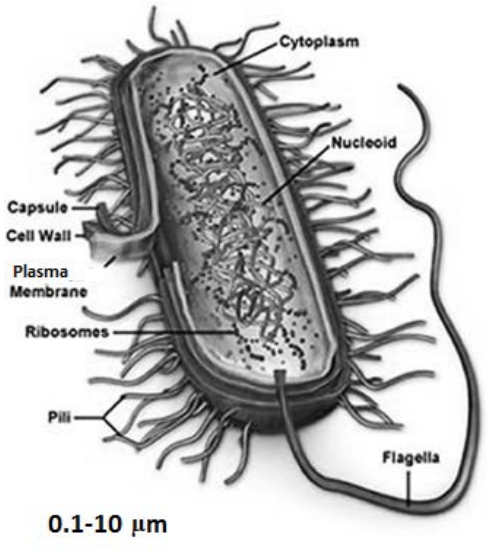
Name _____ Period _____ Date _____

Cell Structure: Prokaryotes and Eukaryotes

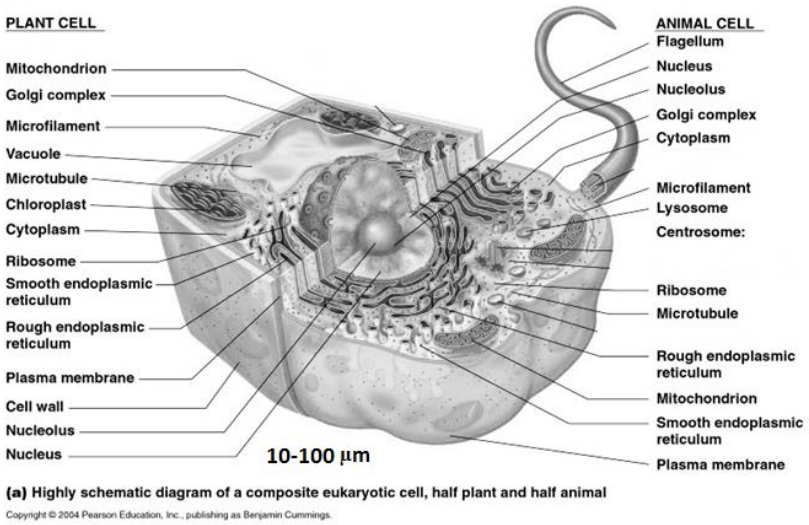
What's the Difference?

Look at the two drawings of prokaryotes and eukaryotes; discuss with your partner the similarities and differences between the two cells.

Prokaryote:



Eukaryote (note: this drawing shows half a plant cell and half an animal cell):



(a) Highly schematic diagram of a composite eukaryotic cell, half plant and half animal

List the five parts that Prokaryotes and Eukaryotes both have:

1. _____
2. _____
3. _____
4. _____ (with just *Plant Eukaryotes)*
5. _____ (with just *Animal Eukaryotes)*

Do Prokaryotes have a nucleus? _____

Which is more complex, Eukaryotes or Prokaryotes? _____

Which is larger? _____

Why are cells named that way?

From Greek words…

EU means _____. PRO means _____. KARY means _____.

Eukaryote = _____; Prokaryote = _____.

All cells have _____, in eukaryotes it is stored in the _____.

Prokaryotes don't have a nucleus, and it floats around in the cytoplasm in an area called a _____. Only eukaryotes have _____.

Test Yourself: Which type has….? Place a check or X in the table below if the statement is true for each cell type.

Statement	**Prokaryotic**	**Eukaryotic**
1. Have a nucleus		
2. Have membrane-bound organelles		
3. Contain genetic material (DNA)		
4. Can be single or multi-celled		
5. Can only be single-celled.		
6. Have a plasma membrane and cytoplasm		

Hierarchy (organization) of Life:

Starting from an atom…

_____ → _____ → _____ → _____ → _____ →

_____ → _____ → _____

Review from previous lecture:

1. What are the two common types of microscopes and what are the differences between them?

2. What are the three tenets of the cell theory of life?

3. Who were the two important people that we talked about and what did they do?

4. Explain why cells are so small.