Last Name: _____ First Name: _____ Date: _____ Class: BIO3 Section: _____

Assignment 2 - Cell Structure and Function

Instructions: Define the following terms:

1. Prokaryote

   _____
   _____
   _____

2. Eukaryote

   _____
   _____
   _____

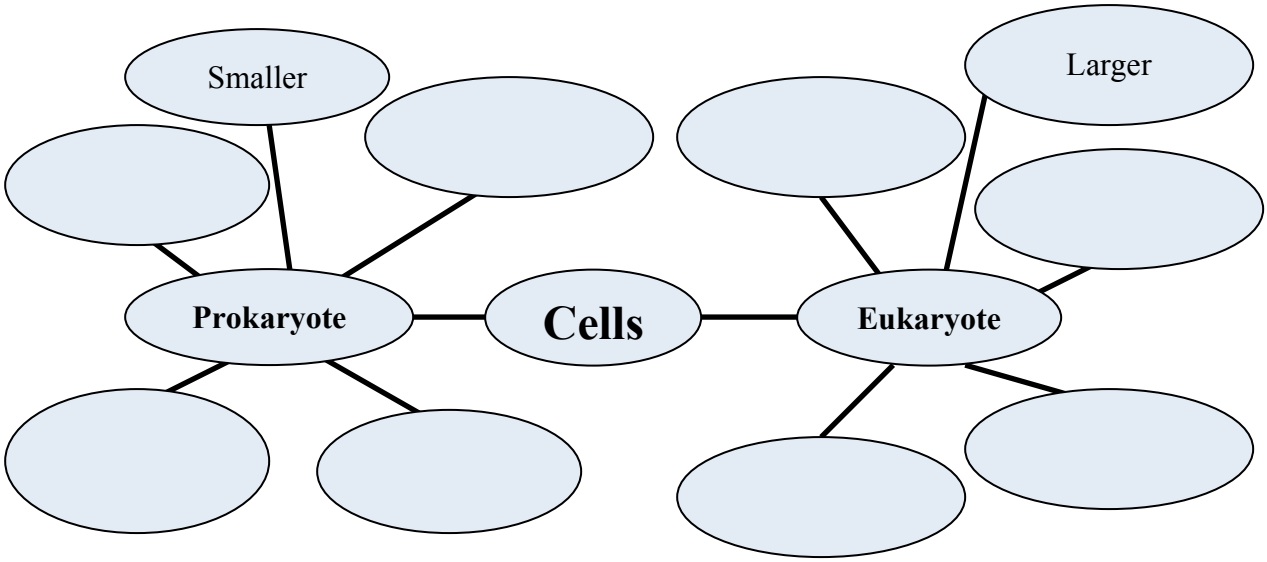
3. Organelle

   _____
   _____
   _____

4. Nucleus

   _____
   _____
   _____

5. Compare characteristics of prokaryotes and eukaryotes using the bubble chart below.



6. Are human cells prokaryotic or eukaryotic? Explain why or why not.

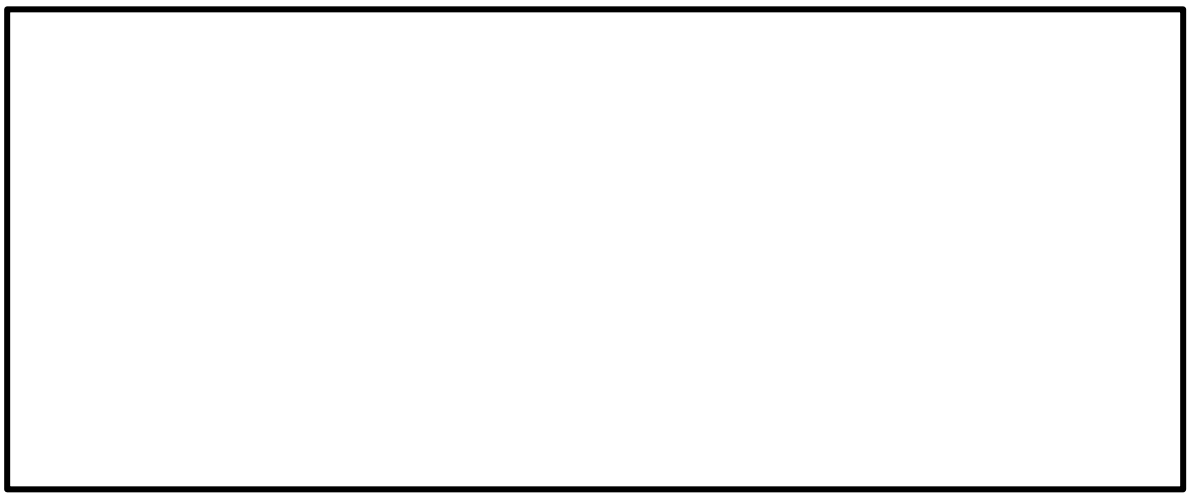
   _____
   _____
   _____

7. Yeast is a unicellular fungus. Are yeasts prokaryotic or eukaryotic? Explain why or why not.
   _____
   _____
   _____

8. Are bacteria prokaryotic or eukaryotic? Explain why or why not.
   _____
   _____
   _____

9. Analyze the structure of a bacterial cell by drawing a diagram. Label **ALL** of the following: capsule, pilus, ribosome, nucleoid cell wall, plasma membrane, cytoplasm, plasmid, and flagellum.

10. Analyze the structure of an animal cell by drawing a diagram. Label **ALL** of the following: plasma membrane, nucleus, rough endoplasmic reticulum, ribosomes, smooth endoplasmic reticulum, golgi apparatus, vesicle, lysosome, mitochondrion, cytoplasm, and cytoskeleton.



11. Analyze the structure of a plant cell by drawing a diagram. Label **ALL** of the following: cell wall, plasma membrane, nucleus, rough endoplasmic reticulum, smooth endoplasmic reticulum, golgi appratus, vesicle, central vacuole, mitochondrion, cytoplasm, and chloroplast.

12. Comprehend the basic function of various organelles by completing the table below.

Organelle	Function
Nucleus	Stores the cell's genetic information (DNA)
rER	
sER	
Vacuole	
Lysosome	
Mitochondrion	
Flagellum	
Ribosome	
Plasma membrane	
Cell wall	
Chloroplast	
Central vacuole	
Cytoskeleton	
Nuclear envelope	

13. Diffusion is the movement of substances from _____ to _____ concentration until equilibrium is reached.
14. During osmosis, _____ moves into or out of cells through the _____ membrane, from _____ solute concentration to _____ solute concentration, until equilibrium is reached.
15. During _____ diffusion, a transport protein moves ions or molecules across the plasma membrane from _____ solute concentration to _____ solute concentration, until equilibrium is reached.
16. ATP, a form of energy cells use, must be used during _____ transport.
17. Contrast endocytosis and exocytosis by explaining how they are different.

    _____
    _____
    _____