

Name: _____

Date: _____

Period: _____

Evidence 1: Cell Comparison

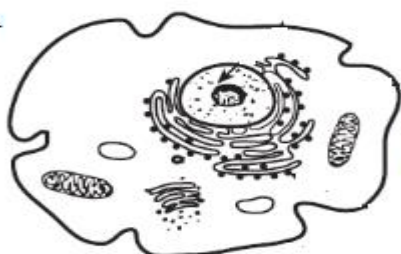
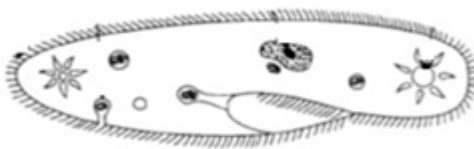
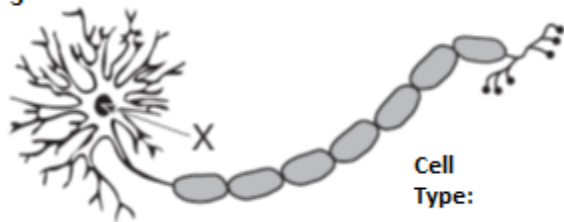
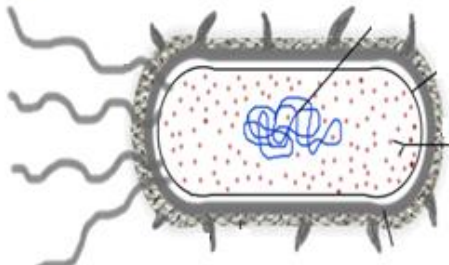
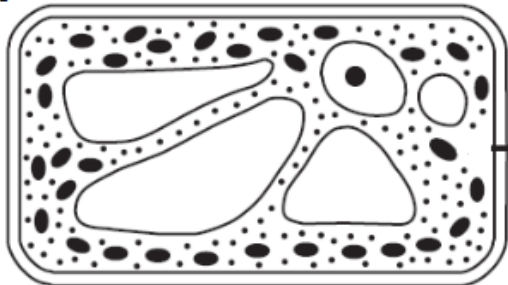
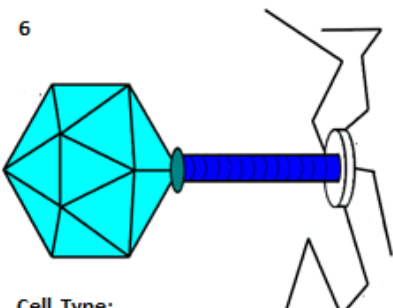
Option 1: Worksheet

1. List 4 structures that **ALL** cells possess.

2. Complete the following table. Place an X in the box if the organism contains that specific structure:

Characteristic	Prokaryote	Eukaryote	Virus (NOT a cell)
Cell Wall			
Contains Ribosomes			
Membrane-bound organelles			
Nucleus			
Nucleic acid			
One Circular DNA			
Linear DNA			

3. Identify the following cells as prokaryotic or eukaryotic in the space provided..

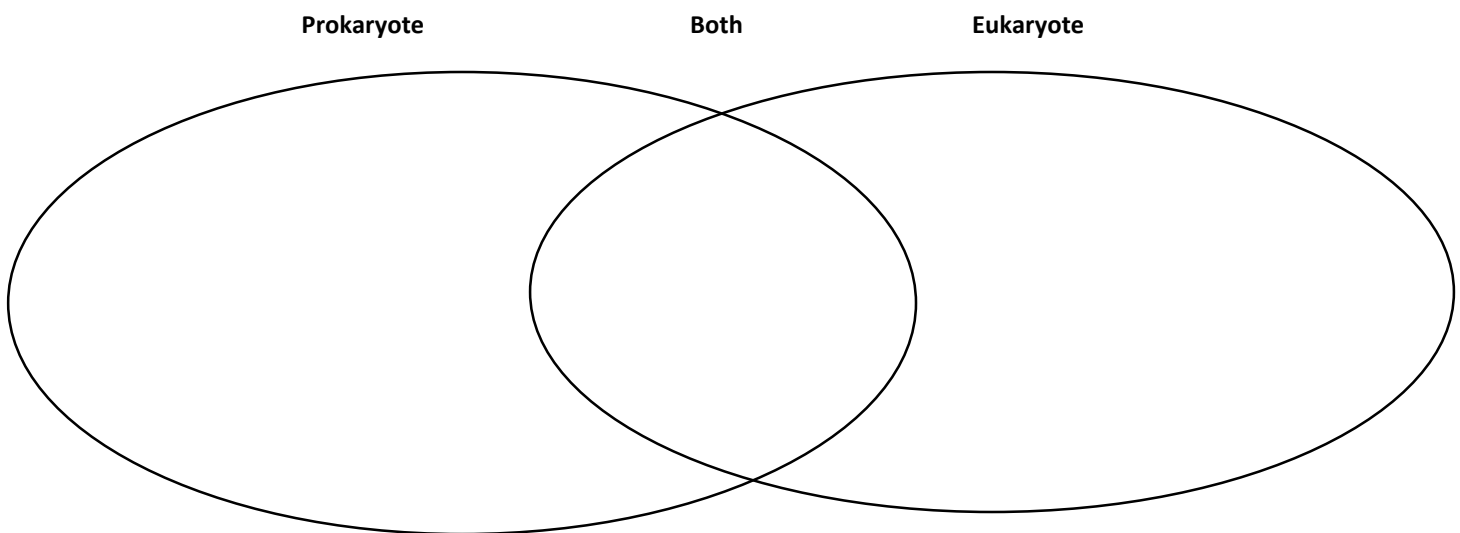
<p>1</p>  <p>Cell Type:</p>	<p>2</p>  <p>Cell Type:</p>
<p>3</p>  <p>Cell Type:</p>	<p>4</p>  <p>Cell Type:</p>
<p>5</p>  <p>Cell Type:</p>	<p>6</p>  <p>Cell Type:</p>

4. Santiago was examining a prepared slide of an unknown organism under a microscope. How can Santiago determine if the organism he is looking at is from Kingdom Eubacteria or from Kingdom Protista? Explain

5. Both prokaryotes and eukaryotes can carry out basic life functions even though they are composed of different components. Based on what you know about those different components, which type of cell is more likely to become a cell that is specialized to perform a specific function? Why?

6. Use the word choices below to fill in the prokaryote and eukaryote venn diagram:

Found in Kingdoms Eubacteria and Archaeobacteria	Unicellular and multicellular
Found in Kingdoms Protista, Fungi, Plantae, and Animalia	Cell membrane
All unicellular	Use and obtain energy
No nucleus	Has a nucleus
Simple	Reproduce
Has organelles	Has DNA
Has ribosomes	No membrane bound organelles
Complex	Grows



Endosymbiosis. Where did the Eukaryote come from???

	Prokaryotes	Eukaryotes	Mitochondria	Chloroplasts
DNA	single, circular chromosome	Multiple, linear chromosomes in a nucleus	single, circular chromosome	single, circular chromosome
Replication	Binary Fission	Mitosis	Binary Fission	Binary Fission
Ribosomes	"70 S" configuration	"80 S" configuration	"70 S" configuration	"70 S" configuration
Electron Transport Chain	Found in the plasma membrane around cell	Found only in the cell's mitochondria and chloroplasts	Found in the inner mitochondrial membrane	Found in the thylakoid membrane
Size (approximate)	~1-10 microns	~10 - 500 microns	~1-10 microns	~1-10 microns
Appearance on Earth	~3.8 - 2.5 BYA	~1.5 billion years ago	~1.5 billion years ago	~1.5 billion years ago

Using the table above to answer the questions.

7. What type of cell (prokaryote or eukaryote) is mitochondria and chloroplast DNA similar too?
8. What type of cell (prokaryote or eukaryote) is mitochondria and chloroplast replication similar too?
9. What type of cell (prokaryote or eukaryote) is mitochondria and chloroplast ribosomes too?
10. Based on your answer above and what you know, what type of cell was the mitochondria and chloroplast at one time?
11. However, what type of cell (prokaryote or eukaryote) contains mitochondria and chloroplast?
12. Explain the theory of endosymbiosis.