Assignment: 1

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

**Cell Basics and Plant Cells**

**Cell** – the smallest unit that can perform all life processes

**C ell Theory**

1. All living things are made up of one or more cells
2. Cells are the basic units of structure and function in organisms
3. All cells arise from existing cells

**Two types of Cells**

1. **Prokaryotic Cells** – bacteria and other single celled organisms
   1. Has only a single loop of DNA (that is not membrane bound), ribosomes and enzymes that are in cytoplasm, NO NUCLEUS
   2. Have a cell wall around the cell membrane, some also have a capsule that allows them to cling to things
   3. Examples: Bacteria and cyanobacteria
2. **Eukaryotic Cells** – are in organisms that are made up of one or more cells
   1. They are more complex so they can carry out more specialized functions than prokaryotic cells
   2. Two different types: plant and animal cells

**Plant and Animal Cells**

**Organelles** – a structure that carries out a specific activities inside the cell

**Cell Membrane** – Is responsible for the controlled entry and exit of molecules, “the gate keeper”, found on ALL cells

**Cell Wall** – provides and maintains the shape of cells and serves as a protective barrier, made of cellulose

**Nucleus** – the cell’s internal compartment for the DNA, controls all the cell’s functions  
 Contains chromosomes – the structure of DNA that carries the genes and functions of the cell

**Cytoplasm** – inside of the cell, liquid environment that provides support for the cell, “cell jello”

**Ribosomes** – serves as a site to make proteins, protein synthesis occurs here “protein factory”

**Chloroplast** – contains the plant cell’s chlorophyll, produces food by turning sunlight into food (glucose) “food factory”

**Cytoskeleton** – helps maintain the cell shape, motility and internal movement “framework”

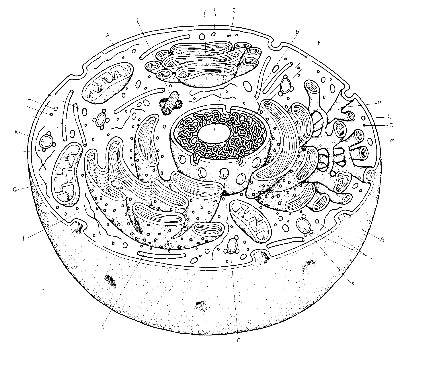
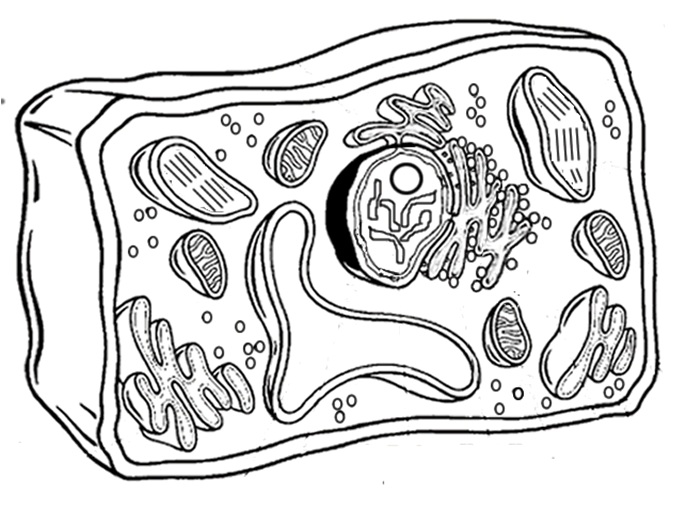
**Endoplasmic Reticulum** –   
 Rough ER – helps make proteins with the help of ribosomes  
 Smooth ER – helps make lipid and membrane proteins

**Golgi Bodies (Apparatus)**– important for packaging macromolecules for transport and delivering things around the cell “UPS store”

**Vacuole** –helps with digestion in the cell, is used to store water and nutrients, it helps plants keep their osmotic pressure, “storage locker”

**Mitochondria** – provide the energy a cell needs, produces ATP from glucose, “powerhouse of the cell”, “mighty mitochondria”

**Lysomes** – digest things inside the cell, “garage disposal”



**Compare/Contrast:**

Assignment: 1

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

**Cell Basics and Plant Cells**

**Cell** – the smallest unit that can perform all life processes

**C ell Theory**



**Two types of Cells**

1. **Prokaryotic Cells** – bacteria and other single celled organisms
   1. Has only a single loop of \_\_\_\_\_\_\_ (that is not membrane bound), \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ that are in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Have a cell \_\_\_\_\_\_\_\_\_ around the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_, some also have a \_\_\_\_\_\_\_\_\_\_ that allows them to cling to things
   3. Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and cyanobacteria
2. **Eukaryotic Cells** – are in organisms that are made up of one or more cells
   1. They are more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ so they can carry out more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ than prokaryotic cells
   2. Two different types: \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ cells

**Plant and Animal Cell Organelles**

**Organelles** – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Cell Membrane** – Is responsible for the controlled \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”, found on \_\_\_\_\_ cells

**Cell Wall** – provides and maintains the \_\_\_\_\_\_\_\_\_ of cells and serves as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_, made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Nucleus** – the cell’s internal compartment for the \_\_\_\_\_\_\_\_\_\_\_\_, controls all the \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_  
 Contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ – the structure of DNA that carries the genes and functions of the cell

**Cytoplasm** – inside of the cell, \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that provides \_\_\_\_\_\_\_\_ for the cell, “\_\_\_\_\_\_”

**Ribosomes** – serves as a site to make \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs here “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

**Chloroplast** – contains the plant cell’s chlorophyll, produces \_\_\_\_\_\_\_\_ by turning \_\_\_\_\_\_\_\_\_\_\_\_\_ into food (\_\_\_\_\_\_\_\_\_\_\_\_\_\_) “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

**Cytoskeleton** – helps maintain the cell \_\_\_\_\_\_\_\_\_\_, motility and internal movement “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

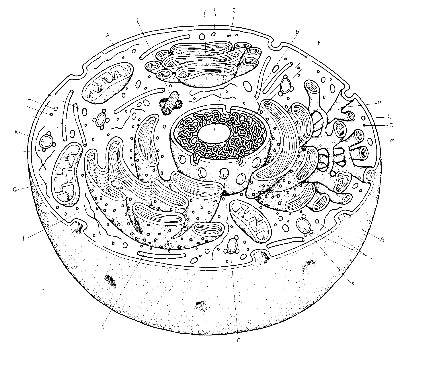
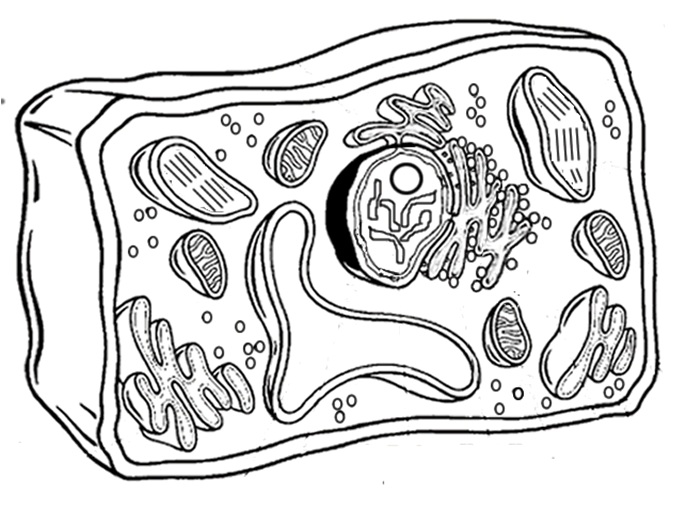
**Endoplasmic Reticulum** –   
 Rough ER – helps make \_\_\_\_\_\_\_\_\_\_\_\_ with the help of \_\_\_\_\_\_\_\_\_\_\_\_\_\_  
 Smooth ER – helps make \_\_\_\_\_\_\_\_\_\_ and membrane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Golgi Bodies (Apparatus)**– important for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ macromolecules for \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ things around the cell “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

**Vacuole** –helps with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the cell, is used to \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_, it helps plants keep their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pressure, “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

**Mitochondria** – provide the \_\_\_\_\_\_\_\_ a cell needs, produces \_\_\_\_\_\_ from \_\_\_\_\_\_\_\_\_\_\_\_\_, “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”, “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”

**Lysomes** – \_\_\_\_\_\_\_\_\_\_ things inside the cell, “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”



**Compare/Contrast:**