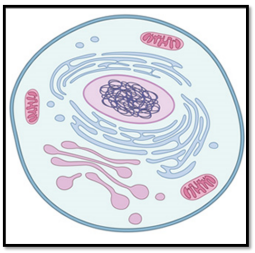
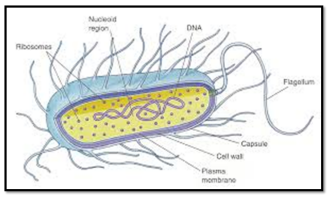
Chapter 3 Cell Structure and Function

- ✓ **A cell is _____ life functions.**

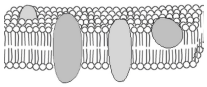
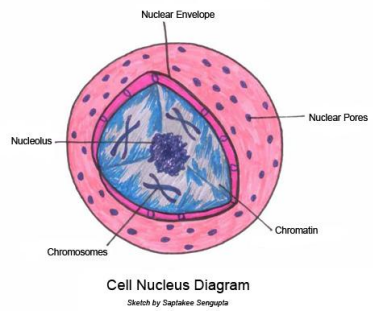
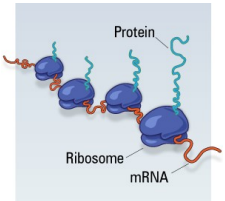
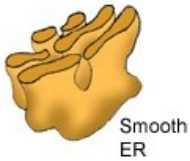
Section 3.1 Cell Theory

- ✓ **The cell theory grew out of the work of many scientists and improvements in the microscope.**
- ✓ **Robert Hooke-**
  - **Observed _____ under a microscope.**
  - **Noticed it was made of _____ that reminded him of small rooms found in monasteries so he gave them the same name- "_____"**
  - **The cells were actually _____ and only the _____ remained.**
    - **So what type of cell was he observing? _____**

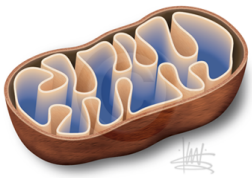
The Cell Theory	
1.	
2.	
3.	

Two types of Cells		
	Differences	**Similarities**
Eukaryotic **Ex** 	• • •	• • •
Prokaryotic **Ex:** 	• • • •	•

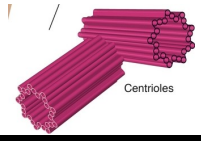
Organelles Found in All Cells

Cell Membrane 	• Controls the movement of materials that _____ the cell. • Made of a _____ bi-layer and _____.
Cytoplasm	• _____ portion of cell between the nucleus and cell membrane.
Cytoskeleton	• Supports the cell • Helps maintain it's _____ • Involved in _____.
Nucleus 	• Control _____. • Stores and _____ information • Only in _____ cell **Chromatin and Chromosomes:** • Contains _____. Chromatin become _____ when the cell divides. **Nucleolus:** • Where the assembly of _____ begins. • Inside the _____ **Nuclear Envelope** • _____ the nucleus • Controls what move _____ and ____of cell's _____
Ribosomes 	• _____ in cytoplasm or _____to ER • Ribosomes are the cells _____ (cytoplasm).
Endoplasmic Reticulum **1. Rough ER**  **2. Smooth ER** 	✓ Acts as cellular _____ or _____ _____ that transports _____ _____. **Two Types:** **1. Rough:** • Has _____. • Sends _____ to the Golgi. • Connected to the _____ **2. Smooth:** • Produce _____(phospholipids) • Has _____ • _____ of poison. • Breaks down _____ and _____.
Golgi Apparatus (body)	• Packages and _____cell products to where _____.

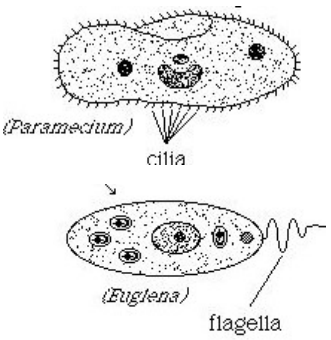
	• Modifies _____, _____, and carbohydrates that they get from the ER._ • _____ and _____ _____ from the cell.
Vesicles	• _____ materials through the _____ • Includes _____, _____and _____
Vacuoles	• Sac that _____for the cell. • Store _____, _____, or _____ • Very large in _____cells

Mitochondria 	• Transform _____for the cell. • Site of _____ • They break down _____ to release energy (_____).

Plant Cell Structures	
Cell Wall	✓ Lies outside the _____. ✓ Composed of _____ and gives _____, _____, and _____ of the cell
Chloroplasts 	✓ **Contain _____ and carry out _____.** ✓ **In _____ only**

Animal Cell Structures	
Lysosomes	✓ Contain _____ _____. ✓ They digest excess or _____ _____ cell parts, _____ _____, and invading viruses or bacteria. If lysosomes break, the chemicals may destroy the cell itself. ✓ _____ _____ cells are removed this way
Centrioles 	✓ They exist in _____ outside the _____ and are involved in _____. ✓ They are composed of_____ arranged in a circle.

Cilia and Flagella	**Cilia:** ✓ Cilia are short, _____ projections out of the _____ _____. ✓ Used for _____ in unicellular organisms. ✓ They are also found in multicellular organisms. ✓ Ex. _____ **Flagella:** ✓ Flagella are _____ _____ that aid in _____. ✓ Ex. _____ and _____.



Similarities Between Plant and Animal Cells
1. **2** **3** **4**

Differences between plant cells and animal cells	
Animal Cells	**Plant Cells**
1. **2.** **3.** **4.** **5.** **6.**	**1.** **2.** **3.** **4.** **5.** **6.**

The Cell is Like a Factory	
Cells	**Factory**
• **Cell Wall** • **Cell membane** • **Cytoskeleton** • **Nucleus** • **Ribosomes** • **Golgi Apparatus** • **Mitochondria**	• _____ • _____ • _____ • _____ • _____ • _____ • _____