**Cell Types and Domains**

**Learning Target:** #4. I can classify, compare and/or draw biological diagrams representing organisms from each of the kingdoms, according to their unifying and distinguishing, anatomical and physiological characteristics.

**Lesson Question: What are the two types of cells that make up all life on Earth?**

1. **Prokaryotes**
* A smaller, simple type of cell the lacks a nucleus and any other organelles bound by a membrane
* Means “before the nucleus”
* Considered to be the most ancient cell type
* Most common examples include bacteria



1. **Eukaryotes**
* A larger, complex type of cell that contains membrane-bound organelles including the nucleus
* Means “true nucleus”
* Size range can exceed a 1000 um
* Demonstrated great diversity in structure and function
* Includes plants, animals, ect.

**Domains and Kingdoms**

* The highest and broadest taxon
* Only 3 domains
	+ Based on the two cell types
	+ Based on phylogenetic relationships revealed by genetic evidence

**1.Domain Eukarya**

* Consists of eukaryotes
* Both unicellular and multicellular organisms exist
* Includes following Kingdoms: Animals, Plants, Fungi, Protista

**2.Domain Eubacteria (Bacteria)**

* Consists of prokaryotes
* Unicellular organisms ONLY
* Includes Kingdom Eubacteria

**3.Domain Archaea**

* Consists of prokaryotes
* Unicellular organisms only
* Includes Kingdom Archaea

**6 Kingdoms:**

**Lesson Summary:**

* Biologists classify living things using a system of six kingdoms and three domains
* System is based on phylogenetic relationships
* Two cell types (prokaryotes and eukaryotes) make up the basis of all life on Earth

**Lesson Review**

Read Section 1.4 (pg 26-29)

Pg 29. Questions 1, 2, 5