**Cell Structure and Microscopes**

This is a list of all the vocabulary/concepts you will be responsible for in this chapter. You need to have all these words/phrases written and defined in your notebook.

Major Concepts:

* **Plant vs. animal cells**
* **Eukaryotic vs. Prokaryotic cells**

Microscope Concepts:

* **Magnification**
* **Resolution**
* **Types of Microscopes:**

Know the: 1) source of radiation, 2) uses, 3) benefits, and 4) drawbacks of each. Have a relative idea of how each works.

* + **Light Microscope:**
  + **Scanning Electron Microscope:**
  + **Transition Electron Microscope:**

Units in Cell Studies:

|  |  |  |
| --- | --- | --- |
| Unit | Symbol | Fraction of a meter |
| **Millimeter** |  |  |
| **Micrometer** |  |  |
| **Nanometer** |  |  |

Note: there are about 60 million million cells in the human body. This is equal to 60 trillion.

Cell Structures: for the following cell and plant cell structures, you need to know the: 1) **appearance** and be able to recognize it in a microscope, 2) the **function**, and the 3) **types of cells** in which it is found. I suggest making a table for this in addition to making sketches of a generic cell and labelling it.

* **Cell membrane**
* **Cytoplasm**
* **Organelles**
* **Nucleus**
  + **Nucleolus**
  + **Nuclear envelope**
* **Mitochondria**
* **Golgi apparatus**
* **Centrioles**
* **Endoplasmic reticulum**
  + **Rough ER**
  + **Smooth ER**
* **Ribosomes**
* **Lysosomes**
* **Microvilli**
* **Cell wall**
* **Chloroplasts**
* **Tonoplast**
* **Vacuole**
* **Plasmodesmata**

Levels of Biological Organization:

* **Cells🡪 Tissues🡪 Organs🡪 Systems**