Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_

Chapter 8: Cell Structure and Function

(Chapter 8 Review Packet; Pages 240-273)

*SC. 912.L.14.1: Describe the scientific theory of cells (cell theory) and relate the history of its discovery to the process of science.*

*SC.912.L.14.2: Relate the structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).*

*SC.912.L.14.3: Compare and contrast the general structures of plant and animal cells. Compare and contrast the general structures of prokaryotic and eukaryotic cells.*

**Vocabulary:**

Cell-

Cell theory-

Cell membrane-

Nucleus-

Eukaryote-

Prokaryote-

Cytoplasm-

Organelle-

Ribosome-

Endoplasmic reticulum-

Golgi apparatus-

Vacuole-

Lysosome-

Cytoskeleton-

Chloroplast-

Mitochondrion-

Cell wall-

Lipid bilayer-

Selectively permeable-

Homeostasis-

Diffusion-

Facilitated diffusion-

Aquaporin-

Osmosis-

Isotonic-

Hypertonic-

Hypotonic-

Osmotic pressure-

Tissue-

Organ-

Organ system-

Receptor-

**Questions:**

Restate the Cell Theory below:

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which individuals contributed to this theory? Over how many years?

Compare the different types of microscopes by filling out the following chart:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Light Microscope | Transmission Electron Microscope | Scanning Electron Microscope |
| Power of Magnification |  |  |  |
| How does it work? |  |  |  |
| Advantage |  |  |  |

Describe the main difference between a prokaryotic cell and a eukaryotic cell?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review page 259. What structures are present in a prokaryotic cell? What is an example of a prokaryotic cell? Draw and label an example of a prokaryotic cell below, as see on page 258.

Recreate and label the diagram of the Cell Membrane, figure 8-14, on page 256:

What is diffusion? How is osmosis an example of facilitated diffusion?

What is the main difference between passive transport and active transport? Be specific.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Recreate the chart on page 263:

|  |
| --- |
| The Effects of Osmosis on Cells |
| Solution | Isotonic: | Hypertonic: | Hypotonic:  |
| Animal Cell |  |  |  |
| Plant Cell |  |  |  |