

# WINK SHEET—Cell Structure

**Theme:** Organisms and their parts are made of cells. Cells are the structural units of life and have specialized substructures that carry out the essential functions of life. Viruses lack cellular organization and therefore cannot independently carry out all of the essential functions of life.

## Expectations:

- \* Develop and use models to explain how specialized structures within cells (including the nucleus, chromosomes, cytoskeleton, endoplasmic reticulum, ribosomes and Golgi complex) interact to produce, modify, and transport proteins. Models should compare and contrast how prokaryotic cells meet the same life needs as eukaryotic cells without similar structures.
- \* Collect and interpret descriptive data on cell structure to compare and contrast different types of cells (including prokaryotic versus eukaryotic, and animal versus plant versus fungal).
- \* Obtain information to contrast the structure of viruses with that of cells and to explain, in general, why viruses must use living cells to reproduce.

**Objectives:** On a scale of 0-5, with 0 being “I know absolutely nothing” and 5 being “I am exceptionally confident in my ability,” please rank your understanding of each objective at the end of the unit.

- \_\_\_\_\_ Identify, locate and describe the function of the major parts of the compound microscope
- \_\_\_\_\_ Correctly carry, place, and use a microscope while preparing a wet mount slide correctly
- \_\_\_\_\_ Differentiate between light microscopes and electron microscopes in terms of magnification, images, uses and costs
- \_\_\_\_\_ Recall the 3 major tenets of the cell theory
- \_\_\_\_\_ Differentiate between the Characteristics of Prokaryotes and Eukaryotes
- \_\_\_\_\_ Recall the functions of each organelle
- \_\_\_\_\_ Classify a cell as a plant, animal, fungal cell based on a description of the organelles, a diagram or a model.
- \_\_\_\_\_ Differentiate between viruses and cells and describe why viruses need cells to reproduce

**Textbook:** We will be covering pages 19-22 and 69-84 in your textbook. Please mark which statements apply to your use of the textbook on this unit.

- \_\_\_\_\_ I read the entire reading for this chapter
- \_\_\_\_\_ I read part of the reading for this chapter
- \_\_\_\_\_ I used the textbook to assist in my understanding of vocabulary from this unit
- \_\_\_\_\_ I used the textbook to assist in my understanding of the objectives
- \_\_\_\_\_ We have a text book?
- \_\_\_\_\_ Other \_\_\_\_\_

## **Vocabulary:**

- Microscope
- Objective lense
- Ocular lenses
- Cell theory
- Prokaryote
- Eukaryote
- Nucleus
- Organelles
- Chlorophyll
- Enzymes
- Mitochondria
- Chloroplasts
- Lysosome
- Vacuoles
- Ribosome
- Endoplasmic reticulum
- Golgi apparatus
- Cillia
- Flagella
- Cell membrane
- Nuclear membrane
- Cell wall
- Cytoplasm
- Animal
- Plant
- Fungus
- Virus

## **Activities:**

- Using a microscope and preparing slides lab
- Plant and animal cell comparison
- Organelle wanted poster
- Stem cells analysis