SfS Away from the Classroom!

AP01: Cells and Organelles (Recommended for Grades 6-8)

Please use the following resources to learn about cells and organelles.

Watch this Video: All About Cells and Cell Structure: Parts of the Cell for Kids - FreeSchool

Answer these questions:

- What two types of cells does the video show?
- What is the purpose of the cell nucleus?
- Name 3 things that are different in plant cells than in animal cells.

Activities: Follow these directions to make a model of a cell.

You will need:

● 4 feet of yarn or string	● 10 post-it notes (or small squares of paper)	● pencil

1. Make a large circle with the yarn. It should be on a flat surface like a table or the floor.
2. Label a separate Post-it with each organelle (see list below) and its function.
   a. Nucleus - store DNA and coordinate the cell's activities
   b. Mitochondria - create energy
   c. Ribosomes - make protein
   d. Cytoplasm - contains all of the organelles
   e. Endoplasmic Reticulum (ER) - make proteins
   f. Golgi Apparatus - sorts and packs proteins
   g. Vacuoles - structural support, storage, waste disposal
   h. Chloroplast - converts light energy to glucose

3. Label the last two Post-its with "Cell membrane" and "Cell Wall"
4. Create a model of an animal cell with Post-its labeled with the correct organelles. (see picture)
   a. The yarn is your cell membrane so label that first.
   b. You may not use all of the labels you made. Why?

5. Take a picture or draw your finished diagram.

6. Next, create a plant cell with the labeled Post-its.
   a. The shape should have changed and the yarn should have two labels.
   b. Did you use all of the organelle labels for this model?

Watch this video if you need help with the activity: AP01 Cells and Organelles.mp4

<u>Make observations & use Claims, Evidence, and Reasoning!</u>

1. **Claim**: Each organelle in a cell has a different function.
   - **Evidence**:

   - **Reasoning**:

2. **Claim**: Plant cells and animal cells have many of the same organelles.
   - **Evidence**:

   - **Reasoning**: