

*Pre-Lab, Skills, and Standards Alignments*

**BAGGIE CELL MODEL**

This lab is an exploration of the structure and function of cells—the “building blocks of life.” Using a simple factory analogy, students will discover how the major parts of a cell work together to make a product, then build a 3-D cell model to help visualize the abstract world of the microscopic cell.

**Lab Length:** 1 hour

**Suggested Pre-Lab Teaching**

- Characteristics of life
- Cells as the basic units of life

**Lab Skills**

- Build a cell model.

**Conceptual Knowledge/Skills**

- Identify cellular structures and organelles by their scientific names.
- Use an example cell-type to demonstrate how cellular form fits its function.
- Explain how a cell is like a factory.
- Describe cellular organization from cells, to tissues and organs.

**New York State Science Learning Standards/NGSS**

Science and Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
<p><u>Developing and Using Models</u> Develop a model to describe phenomena.</p>	<p><u>LS1.A: Structure and Function</u> All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells. (multicellular). (MS-LS1-1) Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3)</p>	<p><u>Scale, Proportion, and Quantity</u> Phenomena that can be observed at one scale may not be observable at another scale.  <u>Structure and Function</u> Complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts, therefore complex natural structures/systems can be analyzed to determine how they function.</p>