



7th Grade Science Unit 2 Overview: CELLabration Time!

Unit Outcomes At the end of this unit, your student should be able to:	Key Vocabulary Terms to deepen the student's understanding
<ul style="list-style-type: none"> ✓ Compare and contrast single-celled organisms' structures and functions that allow them to survive and reproduce. ✓ Describe the functions of the major organelles that make up the animal and plant cells. ✓ Describe why plant cells have a cell wall and chloroplasts. ✓ Determine the functions of specialized cells for multi-cellular organisms. ✓ Identify the hierarchical organization system of multi-cellular organisms. ✓ Describe the functions of the hierarchical organization system of multi-cellular organisms. 	<ul style="list-style-type: none"> ✓ Euglena ✓ Amoeba ✓ Paramecium ✓ Volvox ✓ Protists ✓ Flagellum ✓ Cytoplasmic Streaming ✓ Cilia ✓ Chlorophyll ✓ Cell ✓ Organelles ✓ Cell Membrane ✓ Cell Wall ✓ Nucleus ✓ Chloroplasts ✓ Mitochondria ✓ Vacuoles ✓ Cytoplasm ✓ Tissues ✓ Organs ✓ Organ System ✓ Organism ✓ Specialized
Key Standards Addressed Connections to Common Core/NC Essential Standards	Where This Unit Fits Connections to prior and future learning
<p>7.L.1.1 – Compare the structures and life functions of single-celled organisms that carry out all of the basic functions of life including: Euglena, Amoeba, Paramecium, Volvox.</p> <p>7.L.1.2 – Compare the structures and functions of plant and animal cells, including major organelles (cell membrane, cell wall, nucleus, chloroplasts, mitochondria, and vacuoles).</p> <p>7.L.1.3 – Summarize the hierarchical organization of multi-cellular organisms from cells to tissues to organs to systems to organisms.</p>	<p>Coming into this unit, students should have a strong foundation in:</p> <ul style="list-style-type: none"> ✓ Explaining why some organisms are capable of surviving as a single cell while others require many cells that are specialized to survive. <p>This unit builds to the following future skills and concepts:</p> <ul style="list-style-type: none"> ✓ Explain how specific cell adaptations help cells survive in particular environments (focus on unicellular organisms). ✓ Summarize the structure and function of organelles in eukaryotic cells (including: the nucleus, plasma membrane, cell wall, mitochondria, vacuoles, chloroplasts, and ribosomes) and ways that these organelles interact with each other and to perform the function of the cell. ✓ Analyze the classification of organisms according to their evolutionary relationships (including: dichotomous keys and phylogenetic trees).
Additional Resources Materials to support understanding and enrichment	"Learning Checks" Questions Parents Can Use to Assess Understanding
<ul style="list-style-type: none"> ✓ ck12.org (Cell Biology; Protists) ✓ Study Jams ✓ Discovery Ed (Science Tech Book – Cells; Protists) ✓ Cells Alive ✓ Protists ✓ Microbe World 	<ul style="list-style-type: none"> ✓ How do the structures of Euglena, Amoeba, Paramecium, and Volvox help them perform basic life functions? (Include movement, nutrition and reproduction in your answer.) ✓ What are the similarities and differences in plant and animal cells? ✓ How do the major organelles of a cell help an organism perform its life functions? ✓ How are multi-cellular organisms organized? ✓ What are the functions of the hierarchical organization system of multi-cellular organisms?