



**CELLabration Time!**

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