Cells / Systems

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The contents of this guide align with the following North Carolina Essential Science Standards:

7.L.1 Understand the processes, structures and functions of living organisms that enable them to survive, reproduce and carry out the basic functions of life.

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

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).

7.L.1.3 Summarize the hierarchical organization of multi-cellular organisms from cells to tissues to organs to systems to organisms.

7.L.1.4 Summarize the general functions of the major systems of the human body (digestion, respiration, reproduction, circulation, and excretion) and ways that these systems interact with each other to sustain life.

Note to teachers using the Cells / Systems unit.

This unit provides hands-on inquiry-based activities about some aspects of cells and human body systems to supplement your teaching. It does not touch upon all organelles or every human body system in the NC Life Science standards. For example, it teaches about the structure and function of cell membranes, diffusion and osmosis through a few in-depth investigations. Although this is only one of many aspects of the cell, it is a topic that is well suited to a hands-on investigation, and can give students a strong sense of what it means to study organelles. Likewise, this unit addresses only those human body systems that are suitable for CIBL's inquiry-based approach, not every system. These activities will engage students and increase their interest as you teach the remaining concepts listed in the standards.

The activities in this guide, created by the Center for Inquiry-Based Learning (CIBL), are designed to deepen students' understanding of science concepts and processes. Materials for activities are available from CIBL with professional development. Please provide feedback at cibl@ciblearning.org or on our website, http://www.ciblearning.org. This unit is part of the following series:

6th Grade Modules	7th Grade Modules	8th Grade Modules
Cycling of Matter & Population Dynamics	Atmosphere	NC 8th Grade Life Science
Earth's Crust	Bodyworks	Chemistry
Energy & Waves	Machines, Energy, Forces and Motion	Change Through Time
The Solar System	Genetics / Cells / Systems	Hydrosphere

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