



Public Schools of North Carolina
 State Board of Education | Department of Public Instruction
 North Carolina Extended Essential Standards
 Science High School

The *Alternate Achievement Standards for Students With the Most Significant Cognitive Disabilities Non-Regulatory Guidance* states, “...materials should show a clear link to the content standards for the grade in which the student is enrolled, although the grade-level content may be reduced in complexity or modified to reflect pre-requisite skills.” Throughout the Standards descriptors such as, describe, classify, identify, compare, etc, should be interpreted to mean that the students will be taught and tested according to their mode of communication.

Biology Life Science Structures and Functions of Living Organisms		
Essential Standard	Essence	Extended Essential Standard
Bio.1.1 Understand the relationship between the structures and functions of cells and their organelles.	Understand structures and functions of cells	EX.Bio.1 Understand structures and functions of living organisms.
Clarifying Objectives Bio.1.1.1 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 to perform the function of the cell. Bio.1.1.2 Compare prokaryotic and eukaryotic cells in terms of their general structures (plasma membrane and genetic material) and degree of complexity. Bio.1.1.3 Explain how instructions in DNA lead to cell differentiation and result in cells specialized to perform specific functions in multicellular organisms.		Clarifying Objectives EX.Bio.1.1 Identify that plants make their own food through a process called photosynthesis. EX.Bio.1.2 Explain function (e.g., Skin- protect; Heart-pump blood) of major external and internal body parts, including skin, brain, heart, lungs, stomach, eyes, and ears. EX.Bio.1.3 Identify that the cell is the smallest basic unit of life and most living things are composed of many cells.



Biology A and B Ecosystem		
Essential Standard	Essence	Extended Essential Standard
Clarifying Objectives	Clarifying Objectives	Clarifying Objectives
<p>Bio.2.1 Analyze the independence of living organisms within their environments.</p> <p>Bio.2.1.1 Analyze the flow of energy and cycling of matter (water, carbon, nitrogen and oxygen) through ecosystems relating the significance of each to maintain the health and sustainability of an ecosystem.</p> <p>Bio.2.1.2 Analyze the survival and reproductive success of organisms in terms of behavioral, structural, and reproductive adaptations.</p> <p>Bio.2.1.3 Explain various ways organisms interact with each other (including predation, competition, parasitism, mutualism) and with their environments resulting in stability within ecosystems.</p> <p>Bio.2.1.4 Explain why ecosystems can be relatively stable over hundreds or thousands of years, even though populations may fluctuate (emphasizing availability of food, availability of shelter, number of predators and disease).</p>	<p>Understand how living things interact with and within their environment</p>	<p>EX. Bio.2.1 Understand the interdependence of living organisms within their environments.</p> <p>EX.Bio.2.1.1 Identify fruits, vegetables, and meats as things people eat.</p> <p>EX. Bio.2.1.2 Identify that plants and animals get energy from food.</p> <p>EX. Bio.2.1.3 Identify sources of energy for plants and animals (e.g., oats for horses, grass for cows, apple for people, fertilizer for plants).</p> <p>EX. Bio..2.1.4 Understand simple food chains (e.g., grass gets energy from the sun, grasshoppers from grass, snakes from grasshoppers, and hawks from snakes).</p> <p>EX. Bio.2.1.5 Understand ways living things compete with each other to get the things they need to live in their environment.</p>



Bio.2.2 Understand the impact of human activities on the environment (one generation affects the next).		Understand the impact of human activities on the environment	EX.Bio.2.2 Understand the impact of human activities on the environment	
Clarifying Objectives	<p>Bio.2.2.1 Infer how human activities (including population growth, pollution, global warming, burning of fossil fuels, habitat destruction and introduction of nonnative species) may impact the environment.</p> <p>Bio.2.2.2 Explain how the use, protection and conservation of natural resources by humans impact the environment from one generation to the next.</p>		Clarifying Objectives	<p>EX.Bio.2.2.1 Identify natural resources (e.g. water, air, land) impacted by human activity.</p> <p>EX.Bio.2.2.2 Understand how pollution (e.g. waste dumping, littering, smog) affects natural resources.</p> <p>EX.Bio.2.2.3 Understand ways humans can work to preserve natural resources (e.g. recycling, conservation of water, carpooling).</p>