

Benchmarks for Life Science (Biology) – 10th Grade

The following benchmarks are to be taught by all life science teachers in the Coloma Community School District. Required Assessments are listed. All life science teachers will assess all students using the format and scoring guides (rubrics) specified in the assessment descriptions.

Strand	Standard	Benchmark	Assessments Required
Cells	III.1.1 All students will apply an understanding of cells to the functioning of multi-cellular organisms, including how cells grow, develop, and reproduce.	Explain how multi-cellular organisms grow, based on how cells grow and reproduce	<p>Every benchmark in this curriculum has some kind of assessment listed. See cell packet.</p> <p>The committee needs to select at least one, or a blend of several assessment, from each Strand</p> <p>Or the committee can select other assessments from their resources. See Heredity packet.</p>
	III.1.2 “	Compare and contrast ways in which selected cells are specialized to carry out life functions.	
Organization of Living Things	III.2.2 All students will use classification systems to describe groups of living things, investigate and explain how living things obtain and use energy; and analyze how parts of living things are adapted to carry out specific function.	Describe the life cycle of an organism associated with human disease.	
	III.2.3 “	Explain the process of food storage and food use in organisms	
	III.2.4 “	Explain how living things maintain a stable internal environment	
	III.2.5 “	Describe technology used in the prevention, diagnosis, and treatment of diseases and explain its function in terms of human body processes	
Heredity	III.3.1 All students will investigate and explain how characteristics of living things are passed on through generations. Explain why organisms within a species are different from one another; and explain how new traits can be established by changing or manipulating genes.	Explain how characteristics of living things are passed on from generation to generation.	
	III.3.2 “	Describe how genetic material is passed from parent to young during sexual and asexual reproduction.	
	III.3.3 “	Explain how new traits may be established in individuals/populations through changes in genetic material (DNA).	

Evolution	III.4.1 All students will explain how scientists construct and scientifically test theories concerning the origin of life and evolution of species; compare ways that living organisms are adapted (suited) to survive and reproduce in their environments; and analyze how species change through time.	Describe what biologists consider to be evidence for human evolutionary relationships to selected animal groups.	
	III.4.2 “	Explain how a new species or variety may originate through the evolutionary process of natural selection.	
Ecosystems	III.5.6 All students will explain how parts of an ecosystem are related and how they interact; explain how energy is distributed to living things in an ecosystem; investigate and explain how communities of living things change over a period of time; describe how materials cycle through an ecosystem and get reused in the environment; and analyze how humans and the environment interact.	Describe common ecological relationships between and among species and their environments.	See Ecology packet.
	III.5.2 “	Explain how energy flows through familiar ecosystems.	
	III.5.3 “	Describe general factors regulating population size in ecosystems	
	III.5.4 “	Describe responses of an ecosystem to events that cause it to change.	
	III.5.5 “	Describe how carbon and soil nutrients cycle through selected ecosystems.	
	III.5.6 “	Explain the effects of agriculture and urban development on selected ecosystems.	