

	Essential Standard	Essential Standard Learning Targets	Supporting Standards	Supporting Standards Learning Targets
<p><u>Pre-Unit:</u> Introduction to Life</p> <p><u>Teaching Time:</u> 2 weeks</p>	Pre-standard	Students will learn policies and procedures in the 7 th grade life science classroom.	Pre-standard: See rationalization	<p>Rationalizations:</p> <ul style="list-style-type: none"> -Students will follow correct protocol for identifying and reporting safety problems and violations. -Students will be introduced to policies and procedures in the middle school science classroom.
<p><u>Unit 1:</u> Living Things</p> <p><u>Teaching Time:</u> 3 weeks</p>	S7L1. Obtain, evaluate, and communicate information to investigate the diversity of living organisms and how they can be compared scientifically.	I can identify the characteristics that scientists use to classify organisms into the six kingdom systems	<p>a. Develop and defend a model that categorizes organisms based on common characteristics.</p> <p>b. Evaluate historical models of how organisms were classified based on physical characteristics and how that led to the six kingdom system (currently archaea, bacteria, protists, fungi, plants and animals).</p>	<p>I can identify the levels of classification.</p> <p>I can identify organisms using a taxonomic key.</p> <p>I can identify and explain the six characteristics of living things.</p> <p>I can explain where living things come from and what they need to survive.</p> <p>I can explain why/how biologists classify organisms based on their physical characteristics.</p>
<p><u>Unit 2:</u> Cells</p> <p><u>Teaching Time:</u> 5 weeks</p>	S7L2. Students will describe the structure and function of cells, tissues, organs, and organ systems.	I can explain how the different cell structures work together in order to survive.	<p>a. Explain that cells take in nutrients in order to grow and divide and to make needed materials.</p> <p>b. Relate cell structures (cell membrane, nucleus, cytoplasm, chloroplasts, and mitochondria) to basic cell functions.</p> <p>c. Explain that cells are organized into tissues, tissues into organs, organs into systems, and systems into organisms.</p>	<p>I can explain the Cell Theory.</p> <p>I can explain the difference between a prokaryotic and eukaryotic cell.</p> <p>I can locate and identify the function of the cell's organelles.</p>

	Essential Standard	Essential Standard Learning Targets	Supporting Standards	Supporting Standards Learning Targets
<p><u>Unit 3:</u> Cell Transport</p> <p><u>Teaching Time:</u> 3 weeks</p>	S7L2. Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.	I can explain how cells obtain nutrients in order to grow, reproduce, make needed materials, and process waste.	a. Develop a model and construct an explanation of how cell structures (specifically the nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, and mitochondria) contribute to the function of the cell as a system in obtaining nutrients in order to grow, reproduce, make needed materials and process waste.	<p>I can explain the five compounds that are necessary for organisms to live.</p> <p>I can explain the three types of passive transport.</p> <p>I can explain the three types of active transport.</p>
<p><u>Unit 4:</u> Cell Processes</p> <p><u>Teaching Time:</u> 3 weeks</p>	S7L2. Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.	I can gather synthesize information to explain how living things get energy from the sun.	a. Develop a model and construct an explanation of how cell structures (specifically the nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, and mitochondria) contribute to the function of the cell as a system in obtaining nutrients in order to grow, reproduce, make needed materials and process waste.	I can explain how photosynthesis and cellular respiration work together in order for organisms to maintain basic needs.
<p><u>Unit 5:</u> Cell Division</p> <p><u>Teaching Time:</u> 1 week</p>	S7L2. Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.	I can explain how cells undergo the cell cycle in order to grow.	a. Develop a model and construct an explanation of how cell structures (specifically the nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, and mitochondria) contribute to the function of the cell as a system in obtaining nutrients in order to grow, reproduce, make needed materials and process waste.	<p>I can list the steps of the cell cycle.</p> <p>I can explain why the cell cycle is important for cells.</p>

	Essential Standard	Essential Standard Learning Targets	Supporting Standards	Supporting Standards Learning Targets
<p>Unit 6: Genetics</p> <p>Teaching Time: 3 weeks</p>	<p>S7L3. Obtain, evaluate, and communicate information to explain how organisms reproduce either sexually or asexually and transfer genetic information to determine the traits of their offspring.</p>	<p>I can communicate how parents pass down specific traits to their offspring resulting in genetic variation.</p>	<p>a. Construct an explanation supported with specific evidence of the role of genes and chromosomes in the process of inheriting a specific trait.</p> <p>b. Develop and use a model to describe how asexual reproduction can result in offspring with identical genetic information while sexual reproduction results in genetic variation.</p> <p>c. Ask questions to gather and synthesize information about the ways humans influence the inheritance of desired traits in organisms through selective breeding.</p>	<p>I can explain heredity.</p> <p>I can identify DNA, and the molecules that create it.</p> <p>I can identify dominant and recessive alleles.</p> <p>I can identify genotype and phenotype.</p> <p>I can figure out the probability of physical traits.</p> <p>I can recognize incomplete dominance and codominance.</p>
<p>Unit 7: Evolution</p> <p>Teaching Time: 2 weeks</p>	<p>S7L5. Obtain, evaluate and communicate information from multiple sources to explain the theory of evolution of living organisms through inherited characteristics.</p>	<p>I can explain how genetic variation (diversity) and environmental factors affect the probability that a species will survive and reproduce.</p>	<p>a. use mathematical representations to evaluate explanations of how natural selection leads to changes in specific traits of populations over successive generations.</p> <p>b. Construct an explanation based on evidence that describes how genetic variation and environmental factors influence the probability of survival and reproduction for a species</p> <p>c. Analyze and interpret data for patterns in the fossil record that document the existence of diversity, and extinction of organism and their relationships to modern organisms.</p>	<p>I can explain the evidence that supports the theory of evolution.</p> <p>I can explain Darwin's Theory of Evolution.</p> <p>I can explain how species have changed by evolution.</p> <p>I can explain how natural selection works.</p>

	Essential Standard	Essential Standard Learning Targets	Supporting Standards	Supporting Standards Learning Targets
<p>Unit 8: Populations and Communities</p> <p>Teaching Time: 3 weeks</p>	<p>S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.</p>	<p>I can explain the relationship and interactions between all organisms, both biotic and abiotic within an ecosystem.</p>	<p>a. Construct an explanation for the patterns of interactions observed in different ecosystems in terms of the relationships among and between organisms and abiotic components of the ecosystem.</p> <p>b. Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem.</p> <p>c. Analyze and interpret data provide evidence for how resource availability, disease, climate, and human activity affect individual organisms, populations, communities and ecosystems.</p>	<p>I can explain how the environment provides the needs of organisms.</p> <p>I can explain how populations can max out a community.</p> <p>I can explain how organisms interact within an environment.</p> <p>I can explain relationships between communities.</p>
<p>Unit 9: Biomes</p> <p>Teaching Time: 4 weeks</p>	<p>S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.</p>	<p>I can explain relationships of biotic and abiotic factors within each biome.</p>	<p>a. Construct an explanation for the patterns of interactions observed in different ecosystems in terms of the relationships among between organisms and abiotic components of the ecosystems.</p> <p>b. Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem</p> <p>c. Analyze and interpret data provide evidence for how resource availability, disease, climate, and human activity affect individual organisms, populations, communities and ecosystems.</p> <p>d. Ask questions to gather and synthesize information from multiple sources to differentiate between Earth's major terrestrial biomes (i.e. tropical rain forest, savanna, temperate forest, desert, grassland, taiga, and tundra) and aquatic ecosystems (i.e. freshwater, estuaries, and marine.)</p>	<p>I can explain how energy moves within an ecosystem.</p> <p>I can explain how matter is cycled within an ecosystem.</p> <p>I can identify the adaptations of the flora and fauna located in each biome.</p>

	Essential Standard	Essential Standard Learning Targets	Supporting Standards	Supporting Standards Learning Targets
<p><u>Unit 10:</u> Human Body</p> <p><u>Teaching Time:</u> 3 weeks</p>	<p>S7L2. Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.</p>	<p>I can explain how the systems of the body work together to maintain homeostasis and sustain life.</p>	<p>b. Develop and use a conceptual model of how cells are organized into tissues, tissues into organs, organs into systems, and systems into organisms.</p> <p>c. Construct an argument that systems of the body (Cardiovascular, Excretory, Digestive, Respiratory, Muscular, Nervous, and Immune) interact with one another to carry out life processes.</p>	<p>I can identify the parts of the 11 body systems.</p> <p>I can understand how the body systems interact with one another.</p>