

Science 7

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
P	Physical Science		
P.1	Mixtures of substances can be separated based on their properties such as solubility, boiling points, magnetic properties, and densities		
P.1.a	Identify properties of substances in a mixture that could be used to separate those substances from each other		
P.1.b	Develop and design a scientific investigation to separate the components of a mixture		
L	Life Science		
L.1	Individual organisms with certain traits are more likely than others to survive and have offspring in a specific environment	History of Life on Earth	Page 6
L.1.a	Develop, communicate, and justify an evidence-based explanation for why a given organism with specific traits will or will not survive to have offspring in a given environment		
L.1.b	Analyze and interpret data about specific adaptations to provide evidence and develop claims about differential survival and reproductive success		
L.1.c	Use information and communication technology tools to gather information from credible sources, analyze findings, and draw conclusions to create and justify an evidence-based scientific explanation		
L.1.d	Use computer simulations to model differential survival and reproductive success associated with specific traits in a given environment		

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L.2	The human body is composed of atoms, molecules, cells, tissues, organs, and organ systems that have specific functions and interactions	Respiratory and Circulatory Systems	Page 6
L.2.a	Develop and design a scientific investigation about human body systems		
L.2.b	Develop, communicate, and justify an evidence-based scientific explanation regarding the functions and interactions of the human body		
L.2.c	Gather, analyze, and interpret data and models on the functions and interactions of the human body		
L.3	Cells are the smallest unit of life that can function independently and perform all the necessary functions of life	Respiratory and Circulatory Systems	Page 6
L.3.a	Gather, analyze, and interpret data and models on the different types of cells, their structures, components and functions		
L.3.b	Develop, communicate, and justify an evidence-based scientific explanation regarding cell structures, components, and their specific functions		

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L.3.c	Compare and contrast the basic structures and functions of plant cells, animal cells, and single-celled organisms		
L.3.d	Employ tools to gather, view, analyze, and report results for the scientific investigations of cells		
L.4	Photosynthesis and cellular respiration are important processes by which energy is acquired and utilized by organisms		
L.4.a	Gather, analyze, and interpret data regarding the basic functions of photosynthesis and cellular respiration		
L.4.b	Use direct and indirect evidence to describe the relationship between photosynthesis and cellular respiration within plants - and between plants and animals		
L.4.c	Use computer simulations to model the relationship between photosynthesis and cellular respiration within plants - and between plants and animals		
L.5	Multiple lines of evidence show the evolution of organisms over geologic time		
L.5.a	Interpret and analyze data from the fossil record to support a claim that organisms and environments have evolved over time		

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L.5.b	Analyze and critique the evidence regarding the causes and effects of a mass extinction event		
L.5.c	Analyze and interpret data that show human evolution		
L.5.d	Use technology to share research findings about the evidence regarding the causes and effects of a mass extinction event		
E	Earth Systems Science		
E.1	Major geologic events such as earthquakes, volcanic eruptions, mid-ocean ridges, and mountain formation are associated with plate boundaries and attributed to plate motions	Geologic Processes	Page 11
E.1.a	Gather, analyze, and communicate data that explains Earth's plates, plate motions, and the results of plate motions		
E.1.b	Identify, interpret, and explain models of plates motions on Earth		
E.1.c	Use maps to locate likely geologic "hot spots", using evidence of earthquakes and volcanic activity		

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E.1.d	Use web-based or other technology tools to show connections and patterns in data about tectonic plate boundaries and earthquakes, volcanic eruptions, and mountain formation		
E.2	Geologic time, history, and changing life forms are indicated by fossils and successive sedimentation, folding, faulting, and uplifting of layers of sedimentary rock		
E.2.a	Describe the geologic time scale and why it is used		
E.2.b	Identify and describe the impact of major geologic events on life on Earth		
E.2.c	Identify and describe major events in Earth's geologic history		
E.2.d	Use direct and indirect evidence to determine the sequence of events in geologic time		