

7th Grade Science

Power Standard:		
SC.O.7.2.31 DOK 2	determine the relative age of rock layers using index fossils and the law of superposition.	
	<ul style="list-style-type: none"> determine the relative age of rock layers using index fossils 	Level
	<ul style="list-style-type: none"> determine the relative age of rock layers using the law of superposition. 	Level
SC.O.7.2.32 DOK 2	explain how changing latitude affects climate.	Level
SC.O.7.2.33 DOK 1	trace the life cycle of a star.	Level
SC.O.7.3.01 DOK 2	explore the relationship between the parts of a system to the whole system.	Level
SC.O.7.3.02 DOK 2	construct a variety of useful models of an object, event, or process.	Level
SC.O.7.3.03 DOK 2	compare and contrast changes that occur in an object or a system to its original state.	
	<ul style="list-style-type: none"> Compare changes that occur in an object or a system to its original state. 	Level
	<ul style="list-style-type: none"> contrast changes that occur in an object or a system to its original state. 	Level
SC.O.7.3.04 DOK 2	compare and contrast the influence that a variation in scale will have on the way an object or system works. (e.g., cooling rates of different-sized containers of water, strength of different-sized constructions from the same material, or flight characteristics of different-sized model airplanes).	Level
SC.O.7.3.05 DOK 3	research everyday applications and interactions of science and technology.	
	<ul style="list-style-type: none"> research everyday applications and interactions of science and technology 	Level
	<ul style="list-style-type: none"> research everyday applications of science 	Level
	<ul style="list-style-type: none"> research everyday applications technology 	Level
SC.O.7.3.06 DOK 3	evaluate and critically analyze mass media reports of scientific developments and events.	
	<ul style="list-style-type: none"> evaluate mass media reports of scientific developments and events 	Level
	<ul style="list-style-type: none"> critically analyze mass media reports of scientific developments and events 	Level
SC.O.7.3.07 DOK 1	explore the connections between science, technology, society and career opportunities.	
	<ul style="list-style-type: none"> explore the connections between science and career opportunities 	Level
	<ul style="list-style-type: none"> explore the connections between technology and career opportunities 	Level
	<ul style="list-style-type: none"> explore the connections between society and career opportunities 	Level
Power Standard:		
SC.O.7.1.01 DOK 1	realize that scientists formulate and test their explanations of nature using observation and experiments.	
	<ul style="list-style-type: none"> Realize that scientists formulate explanations of nature using observation 	Level

	<ul style="list-style-type: none"> Realize that scientists formulate explanations of nature using experiments 	Level
	<ul style="list-style-type: none"> Realize that scientists test explanations of nature using observation 	Level
	<ul style="list-style-type: none"> Realize that scientists text explanations of nature using experiments 	Level
SC.O.7.1.02 DOK 1	recognize scientific knowledge is subject to modification as new scientific information challenges current explanations.	
	<ul style="list-style-type: none"> recognize scientific knowledge is subject to modification 	Level
	<ul style="list-style-type: none"> recognize scientific knowledge challenges current explanations. 	Level
SC.O.7.1.03 DOK 1	examine the careers and contributions of men and women of diverse cultures to the development of science.	
	<ul style="list-style-type: none"> examine the careers of men of diverse cultures to the development of science. 	Level
	<ul style="list-style-type: none"> examine the careers of women of diverse cultures to the development of science. 	Level
	<ul style="list-style-type: none"> examine the contributions of men of diverse cultures to the development of science. 	Level
	<ul style="list-style-type: none"> examine the contributions of women of diverse cultures to the development of science. 	Level
SC.O.7.1.04 DOK 2	compare and contrast the historical significance of scientific discoveries.	
	<ul style="list-style-type: none"> compare the historical significance of scientific discoveries 	Level
	<ul style="list-style-type: none"> contrast the historical significance of scientific discoveries 	Level
SC.O.7.1.05 DOK 2	cooperate and collaborate to ask questions, design and conduct investigations to find answers and solve problems.	
	<ul style="list-style-type: none"> cooperate and collaborate to ask questions 	Level
	<ul style="list-style-type: none"> cooperate and collaborate to design and conduct investigations 	Level
	<ul style="list-style-type: none"> cooperate and collaborate to find answers 	Level
	<ul style="list-style-type: none"> cooperate and collaborate to solve problems. 	Level
SC.O.7.1.06 DOK 3	formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.	
	<ul style="list-style-type: none"> formulate conclusions through close observations 	Level
	<ul style="list-style-type: none"> formulate conclusions through logical reasoning 	Level
	<ul style="list-style-type: none"> formulate conclusions through objectivity 	Level
	<ul style="list-style-type: none"> formulate conclusions through perseverance and integrity in data collection. 	Level
SC.O.7.1.07 DOK 3	apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.	
	<ul style="list-style-type: none"> Apply skepticism in investigating the observable universe 	Level
	<ul style="list-style-type: none"> Apply careful methods in investigating the observable universe 	Level
	<ul style="list-style-type: none"> Apply Logical reasoning in investigating the observable universe 	Level
	<ul style="list-style-type: none"> Apply creativity in investigating the observable universe 	Level
SC.O.7.1.08 DOK 1	use a variety of technologies and scientific instruments to conduct explorations, investigations and experiments of the natural world.	
	<ul style="list-style-type: none"> use a variety of technologies and scientific instruments to conduct explorations of the natural world. 	Level
	<ul style="list-style-type: none"> use a variety of technologies and scientific instruments to conduct 	Level

	investigations of the natural world.	
	<ul style="list-style-type: none"> use a variety of technologies and scientific instruments to conduct experiments of the natural world. 	Level
SC.O.7.1.09 DOK 1	demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.	
	<ul style="list-style-type: none"> demonstrate safe techniques for handling science materials 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for handling science equipment 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for handling science natural specimens 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for handling science living organisms 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for manipulating science materials 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for manipulating science equipment 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for manipulating science natural specimens 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for manipulating science living organisms 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for caring for science materials 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for caring for science equipment 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for caring for science natural specimens 	Level
	<ul style="list-style-type: none"> demonstrate safe techniques for caring for science living organisms 	Level
SC.O.7.1.10 DOK 3	utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables).	
	<ul style="list-style-type: none"> utilize experimentation to demonstrate scientific processes 	Level
	<ul style="list-style-type: none"> utilize experimentation to demonstrate thinking skills 	Level
SC.O.7.1.11 DOK 2	construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.	
	<ul style="list-style-type: none"> construct charts to organize data. 	Level
	<ul style="list-style-type: none"> construct charts to display data. 	Level
	<ul style="list-style-type: none"> construct charts to interpret data. 	Level
	<ul style="list-style-type: none"> construct charts to analyze data. 	Level
	<ul style="list-style-type: none"> construct charts to explain data. 	Level
	<ul style="list-style-type: none"> use charts to organize data. 	Level
	<ul style="list-style-type: none"> use charts to display data. 	Level
	<ul style="list-style-type: none"> use charts to interpret data. 	Level
	<ul style="list-style-type: none"> use charts to analyze data. 	Level
	<ul style="list-style-type: none"> use charts to explain data. 	Level
	<ul style="list-style-type: none"> construct graphs to organize data. 	Level
	<ul style="list-style-type: none"> construct graphs to display data. 	Level
	<ul style="list-style-type: none"> construct graphs to interpret data. 	Level
	<ul style="list-style-type: none"> construct graphs to analyze data. 	Level
	<ul style="list-style-type: none"> construct graphs to explain data. 	Level
	<ul style="list-style-type: none"> use graphs to organize data. 	Level
	<ul style="list-style-type: none"> use graphs to display data. 	Level
	<ul style="list-style-type: none"> use graphs to interpret data. 	Level
	<ul style="list-style-type: none"> use graphs to analyze data. 	Level
	<ul style="list-style-type: none"> use graphs to explain data. 	Level
	<ul style="list-style-type: none"> construct tables to organize data. 	Level

	<ul style="list-style-type: none"> construct tables to display data. 	Level
	<ul style="list-style-type: none"> construct tables to interpret data. 	Level
	<ul style="list-style-type: none"> construct tables to analyze data. 	Level
	<ul style="list-style-type: none"> construct tables to explain data. 	Level
	<ul style="list-style-type: none"> use tables to organize data. 	Level
	<ul style="list-style-type: none"> use tables to display data. 	Level
	<ul style="list-style-type: none"> use tables to interpret data. 	Level
	<ul style="list-style-type: none"> use tables to analyze data. 	Level
	<ul style="list-style-type: none"> use tables to explain data. 	Level
SC.O.7.1.12 DOK 3	use inferential reasoning to make logical conclusions from collected data.	Level
SC.O.7.2.01 DOK 2	demonstrate an understanding of the interrelationships among physics, chemistry, biology, earth/environmental science, and astronomy.	
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among physics and chemistry 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among physics and biology 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among physics and earth/environmental science 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among physics and astronomy. 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among chemistry and biology 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among chemistry and earth/environmental science 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among chemistry and astronomy. 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among earth/environmental science and biology 	Level
	<ul style="list-style-type: none"> demonstrate an understanding of the interrelationships among earth/environmental science and astronomy. 	Level
Power Standard:		
SC.O.7.2.26 DOK 1	describe and compare the causes of tides, surfs and currents.	
	<ul style="list-style-type: none"> describe the causes of tides 	Level
	<ul style="list-style-type: none"> describe the causes of surfs 	Level
	<ul style="list-style-type: none"> describe the causes of currents. 	Level
	<ul style="list-style-type: none"> compare the causes of tides and surfs 	Level
	<ul style="list-style-type: none"> compare the causes of surfs and currents 	Level
	<ul style="list-style-type: none"> compare the causes of currents tides 	Level
SC.O.7.2.27 DOK 1	examine the effects of the sun's energy on oceans and weather (e.g., air masses, or convection currents).	
	<ul style="list-style-type: none"> examine the effects of the sun's energy on oceans 	Level
	<ul style="list-style-type: none"> examine the effects of the sun's energy on weather 	Level
SC.O.7.2.32	explain how changing latitude affects climate.	Level

DOK 2		
SC.O.7.2.06 DOK 1	use pictures to show cyclical processes in nature (e.g., water cycle, nitrogen cycle, or carbon cycle).	Level
Power Standard:		
SC.O.7.2.02 DOK 1	identify and describe disease causing organisms (such as bacteria, viruses, protozoa, fungi) and the diseases they cause.	
	<ul style="list-style-type: none"> identify disease causing organisms 	Level
	<ul style="list-style-type: none"> describe disease causing organisms 	Level
	<ul style="list-style-type: none"> Identify diseases caused by organisms 	Level
	<ul style="list-style-type: none"> Describe disease caused by organisms 	Level
SC.O.7.2.03 DOK 1	explain how skeletal, muscular, and integumentary systems work together in the human body.	
	<ul style="list-style-type: none"> explain how skeletal and muscular systems work together in the human body 	Level
	<ul style="list-style-type: none"> explain how skeletal, and integumentary systems work together in the human body 	Level
	<ul style="list-style-type: none"> explain how muscular and integumentary systems work together in the human body 	Level
SC.O.7.2.04 DOK 1	compare the level of organization of cells, tissues and organs in living things.	
	<ul style="list-style-type: none"> compare the level of organization of cells and tissues in living things. 	Level
	<ul style="list-style-type: none"> compare the level of organization of cells and organs in living things. 	Level
	<ul style="list-style-type: none"> compare the level of organization of tissues and organs in living things. 	Level
Power Standard:		
SC.O.7.2.29 DOK 1	describe rock formations (e.g., rock cycle).	Level
SC.O.7.2.30 DOK 1	classify rocks (e.g., crystal/particle size, or mineral composition and uses).	Level
SC.O.7.2.31 DOK 2	determine the relative age of rock layers using index fossils and the law of superposition.	
	<ul style="list-style-type: none"> determine the relative age of rock layers using index fossils 	Level
	<ul style="list-style-type: none"> determine the relative age of rock layers using the law of superposition. 	Level
Power Standard:		
SC.O.7.2.24 DOK 1	perform experiments with simple machines to demonstrate the relationship between forces and distance; use vectors to represent motion.	
	<ul style="list-style-type: none"> perform experiments with simple machines to demonstrate the relationship between forces and distance 	Level
	<ul style="list-style-type: none"> use vectors to represent motion 	Level
SC.O.7.2.25 DOK 1	explain the effect of gravity on falling objects (e.g., $g=9.8\text{m/s}^2$, object dropped on earth and on moon).	Level
Power Standard:		
SC.O.7.2.10 DOK 2	analyze the differences in the growth, development and reproduction in flowering and non-flowering plants.	
	<ul style="list-style-type: none"> Analyze the differences in the growth of flowering and non-flowering plants. 	Level
	<ul style="list-style-type: none"> Analyze the differences in the development of flowering and non-flowering plants. 	Level
	<ul style="list-style-type: none"> Analyze the differences in the reproduction of flowering and non- 	Level

	flowering plants.	
Power Standard:		
SC.O.7.2.22 DOK 1	characterize series and parallel circuits; AC and DC currents.	
	<ul style="list-style-type: none"> Characterize series circuits 	Level
	<ul style="list-style-type: none"> Characterize parallel circuits 	Level
	<ul style="list-style-type: none"> Characterize AC currents 	Level
	<ul style="list-style-type: none"> Characterize DC currents 	Level
Power Standard:		
SC.O.7.2.18 DOK 1	identify the characteristics of sound waves and describe how sound is perceived by the ear.	
	<ul style="list-style-type: none"> identify the characteristics of sound waves 	Level
	<ul style="list-style-type: none"> describe how sound is perceived by the ear. 	Level
Power Standard:		
SC.O.7.2.19 DOK 1	define the absorption and reflection of light as translucent, opaque and transparent.	
	<ul style="list-style-type: none"> define the absorption of light as translucent 	Level
	<ul style="list-style-type: none"> define the absorption of light as opaque 	Level
	<ul style="list-style-type: none"> define the absorption of light as transparent 	Level
	<ul style="list-style-type: none"> define the reflection of light as translucent 	Level
	<ul style="list-style-type: none"> define the reflection of light as opaque 	Level
	<ul style="list-style-type: none"> define the reflection of light as transparent 	Level
SC.O.7.2.20 DOK 1	interpret and illustrate changes in waves as they encounter various mediums (e.g., mirrors, or lenses).	
	<ul style="list-style-type: none"> interpret changes in waves as they encounter various mediums 	Level
	<ul style="list-style-type: none"> illustrate changes in waves as they encounter various mediums 	Level
SC.O.7.2.21 DOK 1	Investigate absorption and reflection of light by an object.	
	<ul style="list-style-type: none"> Investigate absorption of light by an object. 	Level
	<ul style="list-style-type: none"> Investigate reflection of light by an object. 	Level
Power Standard:		
SC.O.7.2.13 DOK 1	compare differences among elements, compounds, homogeneous and heterogeneous mixtures.	
	<ul style="list-style-type: none"> compare differences among elements and compounds 	Level
	<ul style="list-style-type: none"> compare differences among elements and homogeneous mixtures. 	Level
	<ul style="list-style-type: none"> compare differences among elements and heterogeneous mixtures. 	Level
	<ul style="list-style-type: none"> compare differences among compounds and homogeneous mixtures. 	Level
	<ul style="list-style-type: none"> compare differences among compounds and heterogeneous mixtures. 	Level
	<ul style="list-style-type: none"> compare differences among homogeneous and heterogeneous mixtures. 	Level
SC.O.7.2.14 DOK 2	examine the differences in types of solutions (e.g., solutes and solvents, relative concentrations, conductivity, pH).	Level
SC.O.7.2.15 DOK 2	examine chemical reactions involving acids and bases by monitoring color changes of indicator(s) and identifying the salt formed in the neutralization reaction.	
	<ul style="list-style-type: none"> examine chemical reactions involving acids and bases by monitoring 	Level

	color changes of indicator(s)	
	<ul style="list-style-type: none"> examine chemical reactions involving acids and bases by identifying the salt formed in the neutralization reaction. 	Level
SC.O.7.2.16 DOK 1	write word equations to describe chemical reactions.	Level
SC.O.7.2.17 DOK 2	describe the movement of individual particles and verify the conservation of matter during the phase changes (e.g., melting, boiling, or freezing).	
	<ul style="list-style-type: none"> describe the movement of individual particles 	Level
	<ul style="list-style-type: none"> verify the conservation of matter during the phase changes 	Level
SC.O.7.2.23 DOK 1	explain conservation of matter and energy and investigate the different forms of energy (e.g., mechanical, potential, kinetic, or gravitational).	
	<ul style="list-style-type: none"> explain conservation of matter and energy 	Level
	<ul style="list-style-type: none"> and investigate the different forms of energy 	Level
Power Standard:		
SC.O.7.2.05 DOK 1	construct simple keys to differentiate among living things with similar characteristics.	Level
SC.O.7.2.07 DOK 2	evaluate how the different adaptations and life cycles of plants and animals help them to survive in different niches and environments (e.g., inherited and acquired adaptations).	
	<ul style="list-style-type: none"> Evaluate how the different adaptations of plants help them survive in different niches and environments. 	Level
	<ul style="list-style-type: none"> Evaluate how the different life cycles of plants help them survive in different niches and environments 	Level
	<ul style="list-style-type: none"> Evaluate how the different adaptations of animals help them survive in different niches and environments 	Level
	<ul style="list-style-type: none"> Evaluate how the different life cycles of animals help them survive in different niches and environments 	Level
SC.O.7.2.08 DOK 2	analyze how changes in the environment have led to reproductive adaptations through natural selection.	Level
SC.O.7.2.09 DOK 1	explain how an organism's behavior response is a combination of heredity and the environment.	Level
SC.O.7.2.11 DOK 2	predict the trends of interdependent populations if one of the limiting factors is changed.	Level
SC.O.7.2.12 DOK 2	evaluate the consequences of the introduction of chemicals into the ecosystem (e.g., environmental consequences, human health risks, or mutations).	Level