

Quarter					Instructional Shifts							
1	2	3	4		<i>Concepts and Skills</i>	Lab investigations	Close Read Strategy	Tier II Vocab	Text Dependent Questions	Evidence Based	Writing Element	Speaking Element
				SR	<b><i>Science Investigation and Reasoning</i></b>							
				SR.A	<b><i>The student conducts classroom and outdoor investigations following home and safety procedures and uses environmentally appropriate and ethical practices</i></b>							
				1	Demonstrate safe practices in the Texas Safety standards during classroom and outdoor investigations							
				2	Make informed choices in the conservation, disposal, and recycling of materials.							
				SR.B	<b><i>Students use scientific inquiry methods during laboratory and outdoor investigations</i></b>							
				1	Describe, plan and implement simple experimental investigations testing one variable							
				2	Ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology							
				3	Collect information by detailed observations and accurate measuring							
				4	Analyze and interpret information to constructed reasonable explanations from direct (observable) and (inferred) evidence.							

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				5	Demonstrate that repeated investigations may increase the reliability of results							
				6	Communicate valid conclusions in both written and verbal forms.							
				7	Construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information.							
					<b>SR.C</b> <i>Analyze, evaluate, and critique scientific explanation by using empirical evidence, logical reasons, and experimental and observation testing. Includes examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking</i>							
				1	Evaluate the accuracy of the information related to promotional materials for products and services such as nutritional labels							
				2	Draw or develop a model that represents how something works or looks that cannot be seen such as how a soda dispensing machine works							
				3	Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.							

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					<b>SR.D</b> <i>The students know how to use a variety of tools and methods to conduct science inquiry</i>							
				1	Collect record and analyze information using tools:							
				1a	Calculators							
				1b	Microscopes							
				1c	Camera							
				1d	Computers							
				1e	Hand lenses							
				1f	Metric rulers							
				1g	Celsius thermometers							
				1h	Mirrors							
				1i	Prisms							
				1j	Triple beam balance							
				1k	Graduated cylinders							
				1l	Pan Balances							
				1m	Beakers							
				1n	Spring scales							
				1o	Hot plates							
				1p	Meter sticks							
				1q	Compasses							
				1r	Magnets							
				1s	Collecting nets							
				1t	Notebooks							
				1u	Timing devices, clocks and stopwatches							
				1v	Materials to support observations of habitats of organisms such as terrariums and aquariums							

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				2	Use Safety equipment as appropriate, including safety goggles and gloves							
				<b>ME</b>	<b><i>Matter and Energy</i></b>							
				1	Classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy							
				1a	a. Develop a model to describe that mater is made of particles too small to be seen (PS1-A)							
				1b	b. Make observations and measurements to identify materials based on their properties (PS1-C).							
				1c	c. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling or mixing substances, the total weight of matter is conserved (PS1-B).							
				2	Identify the boiling and freezing/melting points of water on the Celsius scale							
				3	Demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand.							

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					3a	a. Conduct investigations to determine whether the mixing of two or more substances results in new substances (PS1-B).						
					4	Identify changes that occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water.						
					5	Measure the matter from the reaction of two or more chemicals (PS1-A).						
					6	Use different measuring devices (thermometers, scales, etc) to demonstrate that some mixtures can change in heat and in volume (CC).						
					<b>FME</b>	<b><i>Force, Motion and Energy</i></b>						
					1	Explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy						
					2	Demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound						

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				3	Demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water							
				4	Design an experiment that tests the effect of force on an object.							
				<b>ES</b>	<b><i>Earth and Space</i></b>							
				1	Explore the processes that led to the formation of sedimentary rocks and fossil fuels							
				1a	a. Draw and label the different major layers of the Earth.							
				2	Recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice.							
				3	Identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels							
				4	Identify fossils as evidence of past living organisms and the nature of the environments at the time using models.							

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				4a	a. Identify and compare the differences between rocks and fossils.							
				5	Differentiate between weather and climate							
				6	Explain how the sun and the ocean interact in the water cycle							
				6a	a. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth (ESS2-C).							
				7	Demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the sun across the sky							
				7a	a. Represent the data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky (ESS1-B).							
				7b	b. Observe and chart the sun and the stars. Support the argument that the apparent brightness of the sun and the stars is due to their relative distance from the Earth (ESS1-A).							
				8	Identify and compare the physical characteristics of the Sun, Earth, Moon							

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				9	Support an argument that the gravitational force exerted by Earth on said objects is directed down (PS2-1).							
				10	Write an opinion supporting the concept that the gravitational force is acting down on an object near the Earth's surface (PS2-B).							
				11	Demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat and sound using a model constructed by the student.							
				12	Demonstrate that light travels in a straight line until it strikes said object and is reflected in another direction through the use of mirrors.							
				13	Develop a model using an example to describe the geosphere, the hydrosphere and/or atmosphere interact (ESS2-A).							
				14	Obtain, combine and graph information about ways individual communities use science to protect the Earth's resources (ESS3-1).							
				15	Describe the different ways that humans use the Earth in industry, farming and everyday life to obtain the resources needed to live (ESS3-C).							

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				OE	<i>Organisms and Environments</i>							
				1	Observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements.							
				2	Describe how the flow of energy derived from the sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers.							
				2a	a. Use models to describe that energy in the food of animals is used for body repair, motion and to maintain body warmth was once energy from the sun (PS3-1).							
				2b	b. Support an argument that plants get materials they need for growth chiefly from air and water (LS1-A).							
				2c	c. Identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals.							
				2d	d. Describe how the flow of energy derived from the sun, used b producers to create their own food, is transferred through a food web to consumers and decomposers.							

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				3	Predict the effects of changes in ecosystem caused by living organisms, including humans, such as the over populations of grazers or the building of highways.							
				4	Identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals.							
				5	Compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals.							
				6	Differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle							
				7	Describe the differences between complete and incomplete metamorphosis of insects.							
				8	Develop and use a model to describe the movement of matter among plants, animals and decomposers and the environment (LS2-A).							

















































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