

Year-At-A-Glance: Science Kindergarten

	Unit Title	GLEs	Guiding Questions
Unit 1	Describing Objects: Using Five Senses	Science as Inquiry: 2,3,4,7 Physical Science: 9,10,11,13,19 Life Science: 25	<ul style="list-style-type: none"> • Can students name the sense organ used for hearing? • Can students name common sounds that they hear? • Can students differentiate sounds? Can the students name some loud sounds? Quiet sounds? • Can students name the sense organ they use for smell? • Can students name some good and bad smells they know? • Can students match pairs of smelly jars? • Can students name what sense organ they usually use for touching? • Can students name what sense organs are used for sight? • Can students name what senses they use to guess what is inside a box? • Can students name what sense organ they use for taste? • Can students name some foods that taste bad or good to them? • Can students identify “mystery foods” by taste?
Unit 2	Sorting and Constructing Patterns	Science as Inquiry: 4 Life Science: 7,8 Physical Science: 12,13	<ul style="list-style-type: none"> • Can students sort common objects accurately (first, by 1 attribute, then by 2 or 3 later in the school year)? • Can students tell about their sorting strategies and justify their choices? • Can students discern hard, soft, rough, smooth, small, large, heavy, light? • Can students decide if an object belongs in a particular group? Can students tell why they made the decision? • Can students determine how the objects in a group are alike? • Can students group, sort, and explain strategies with increasing skill and accuracy as they are given repeated experiences? • Can students construct simple ABAB patterns? Can students tell what comes next in an ABAB pattern? • Can the student explore and name patterns with increasing accuracy and difficulty as they are given repeated experiences? • Can students find and identify environmental patterns?

In Kindergarten, the content of all units should be taught throughout the year with science activities integrated into all content areas.

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	Unit Title	GLEs	Guiding Questions
Unit 3	Exploring Living and Nonliving Things	Science as Inquiry: 1,2,3,5,6,8, 10 Physical Science: 13, 16,17 Life Science: 21,22,23,24,25,29	<ul style="list-style-type: none"> • Can students distinguish between a living thing and a nonliving thing? • Can students name some common things that are living? Can students name some common things that are nonliving? • Can students explain what living things need to survive? • Can students compare their needs to the needs of other living things? • Can students describe changes over the lifetime of a plant? Animal? • Can students compare the structure of the human body to the structure of a tree? • Can students compare the structure of the human body to nonliving objects?
Unit 4	Changes and Variations Among Living Things	Science as Inquiry: 3,4,5,6,7,9,10 Physical Science: 13 Life Science: 21,23,25,28,29	<ul style="list-style-type: none"> • Can students explain how one’s appearance changes as one grows from a baby to an adult? • Can students describe how animals change during their lives? • Can students describe how the life cycles of some animals are different? • Can students visually represent life cycle changes? • Can students describe how plants change through growth development? • Can students use linear measurement (rulers) to measure and record the height of a growing plant? • Can students recognize variations within the same type of animal? • Can students recognize variations within the same type of plant? • Can students describe similarities and differences between two given objects in nature?
Unit 5	Food Groups and Nutrition	Science as Inquiry: 2,3,4,7,8 Physical Science: 11,13 Life Science: 26,27	<ul style="list-style-type: none"> • Can students explain why it is important to eat a variety of foods? • Can students name the major food groups? • Can students list some healthy foods and tell why? • Can students list some unhealthy foods and tell why? • Can students tell that food is energy to help us grow and stay healthy? • Can students use simple words to describe foods? • Can students tell why it is important to wash hands and keep foods clean as they prepare them? • Can students identify physical activities that would help contribute to good health?

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	Unit Title	GLEs	Guiding Questions
Unit 6	Exploring Mixtures and Matter	Science as Inquiry: 2,3,4,7,9,10 Physical Science: 15	<ul style="list-style-type: none"> • Can students define and describe a solid mixture? Liquid mixture? • Can students describe what happens when they mix ___ with ___? • Can students describe what happens to solids in liquids? • Can students describe what happens to liquids in liquids? • Can students predict how mixtures may be separated? <ul style="list-style-type: none"> ○ (Filtering, taking apart piece by piece) • Can students predict how common materials interact with water? • Can students identify water in its solid and liquid form?
Unit 7	Motion, Speed, Direction, and Attraction	Science as Inquiry: 2,3,4,5,7,9 Physical Science: 14,16,17,18 Life Science: 22	<ul style="list-style-type: none"> • Can student accurately describe simple directions and placement of objects (on, under, behind, away, towards)? • Can students describe how objects move on ramps or slides? • Can students describe some different ways that objects move? • Can students describe what happens when they push objects? Can the student describe what happens when they pull objects? • Can students describe objects that roll when they push them? • Can students describe objects that slide when they push or pull them? • Can students identify whether objects are attracted by a magnet or not? • Can students compare and contrast the speed of objects?
Unit 8	Earth and Sky	Science as Inquiry: 1, 2, 3,4, 5, 6,7,8,10 Physical Science: 20 Earth and Space Science: 30,31,32	<ul style="list-style-type: none"> • Can students describe the land around the school? • Can students list what makes up the Earth's land? • Can students list places where we find water? • Can students identify what they see in the sky during the day? • Can students identify what they see in the sky at night? • Can students name the four seasons? • Can students describe what the weather is like today? • Can students tell how the weather today is different from the weather yesterday? • Can students tell why there is day and night?

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Year-At-A-Glance: Science First Grade

	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 1	The Changing Weather and Local Effects	3 weeks	Science as Inquiry: 1,2,3,4,5,6,7,8,9,10 Earth & Space Science: 36,37,38	<ul style="list-style-type: none"> • Can students identify continents and oceans on a map or globe? • Can students identify where salty water and fresh water are found? • Can students describe the water cycle? • Can students describe weather events such as hurricanes and thunderstorms and the effects of these weather changes on plant and animal life?
Unit 2	All Sorts of Solids	2 weeks	Science as Inquiry: 1,2,3,4,5,6,7,8,9,10 Physical Science: 13,14,15,23,24	<ul style="list-style-type: none"> • Can students measure the length of an object in nonstandard units? • Can students use physical properties to sort things? • Can students predict and determine, through experimentation, if objects are magnetic or non-magnetic? • Can students predict and determine, through experimentation, if objects sink or float?
Unit 3	States of Matter	2 weeks	Science as Inquiry: 1,2,3,4,5,6,8, 10 Physical Science: 13, 16,17 Earth & Space Science: 37	<ul style="list-style-type: none"> • Can students differentiate among the properties of solids, liquids, and gases? • Can students describe common properties of solids, liquids, and gases? • Can students describe how hot and cold temperatures affect the state of matter?
Unit 4	Functions of the Human Body	3 weeks	Science as Inquiry: 1, 2, 4, 5, 8, 9 Life Science: 29	<ul style="list-style-type: none"> • Can students explain that the human body is made up of different systems? • Can students identify six body systems and the major organ associated with each? • Can students relate everyday items to the six body systems explored in this unit and describe how each one works?

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	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 5	Variations, Changes, and Adaptations in the Environment	3 weeks	Science as Inquiry: 1,2,4,5,7,8,10,11 Life Science: 26,27,28,30,31,32,33,34 35,39	<ul style="list-style-type: none"> • Can students describe differences between living things and nonliving things? • Can students describe the basic stages in the growing cycle of plants and what plants need to grow? • Can students describe the survival needs and habitats of different types of animals/pets? • Can students describe some soil characteristics?
Unit 6	Heat, Sound, and Light	2 weeks	Science as Inquiry: 1,2,3,4,5,7,8,9,10,12 Physical Science: 18,19,20,21,22,25	<ul style="list-style-type: none"> • Can students recognize various types of energy? • Can students describe how sounds are made? • Can students describe things that give off heat? light? • Can students describe what type of energy makes certain objects move?

This is a suggested guide for instructional planning to support teachers in teaching the Louisiana science curriculum. Teachers have flexibility in teaching units as they see necessary.

Year-At-A-Glance: Science Second Grade

	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 1	Properties of Matter	3 weeks	<p>Science as Inquiry: 2,3,4,5,6,7,8,9,10,11,12</p> <p>Physical Science: 14,15,16,17,18,20,25</p>	<ul style="list-style-type: none"> • Can students identify continents and oceans on a map or globe? • Can students identify where salty water and fresh water are found? • Can students describe the water cycle? • Can students describe weather events such as hurricanes and thunderstorms and the effects of these weather changes on plant and animal life?
Unit 2	Sound and Light	3 weeks	<p>Science as Inquiry: 2,3,4,9,10,13</p> <p>Physical Science: 21,22,23,24,26</p>	<ul style="list-style-type: none"> • Can students explain how sounds are made? • Can students describe how sound travels? • Can students describe how light travels? • Can students describe the appearance of objects that let light shine through?
Unit 3	Basic Needs of Living Things	3 weeks	<p>Science as Inquiry: 1,2,5,6,8,9,10,11</p> <p>Life Science: 27,28,29,30,31,32,33</p> <p>Science & the Environment: 45,46,47</p>	<ul style="list-style-type: none"> • Can students distinguish and describe what makes a living thing and what makes a nonliving thing? • Can students articulate why food is important to living things? • Can students explain the functions of the major parts of a plant? • Can students explain the role of the Sun to living things? • Can students illustrate and interpret a simple food chain? • Can students describe a variety of life cycles?
Unit 4	Environment	3 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,8,9,10,11,13</p> <p>Life Science: 24,25</p> <p>Science & the Environment: 48,49,50,51</p>	<ul style="list-style-type: none"> • Can students describe conditions within a habitat that are beneficial for living things and those that are not good for living things? • Can students generate examples of uncontrollable conditions and events that can happen resulting in damage to a habitat? • Can students explain what the term <i>endangered animal</i> means and cite examples?

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	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 5	Earth and Beyond	2 weeks	Science as Inquiry: 1,2,3,5,6,9,10,11,12 Earth & Space Science: 36,37,38,42,43	<ul style="list-style-type: none"> • Do students understand the difference among rocks, minerals, and soil? • Can students identify bodies of water such as lakes, oceans, seas, and rivers? • Can students describe the major objects in the sky, such as the Sun, stars, and Moon, and make a comparison of their characteristics?
Unit 6	Weather	2 weeks	Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12 Physical Science: 19 Earth and Space Science: 39,40,41,44	<ul style="list-style-type: none"> • Can students identify and read the weather instruments used to measure the temperature, wind direction, and rainfall amounts? • Can students describe the importance and impact the Sun has on weather conditions?

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Unit 1	Measuring and Describing Matter	3 weeks	<p>Science as Inquiry: 2,3,4,5,6,7,8,9,11,12,15</p> <p>Physical Science: 18,19,20,21,22</p> <p>Earth and Space: 47,48,49</p>	<ul style="list-style-type: none"> • Can students cite what units of measurement are used to measure length and width? • Can students select the appropriate tool to measure temperature, liquid volume, and mass? • Can students distinguish what materials make up common objects? • Can students describe what physical changes occur when matter changes states and what causes these changes?
Unit 2	Energy	3 weeks	<p>Science as Inquiry: 1,2,3,4,5,9,11,12,13,14,16,17</p> <p>Physical Science: 27,28,29,30,31,32</p>	<ul style="list-style-type: none"> • Can students describe how the structure of an object changes the pitch and volume of the sound? • Can students describe the relation of an object's color to its absorption and reflective properties? • Can students identify materials that are a good conductor of heat and electricity and tell which materials make the best insulators? • Can students describe the effect of color on the temperature of an object when it is exposed to sunlight? • Can students diagram a circuit and identify the direction of electrical energy flow in an open and closed circuit?
Unit 3	Forces and Motion	2 weeks	<p>Science as Inquiry: 1,2,3,4,5,7,8,9,11,12,17</p> <p>Physical Science: 23,24,25,26,32,33</p>	<ul style="list-style-type: none"> • Can students explain how force is a push or a pull on an object? • Can students describe the relationship of the height of an inclined plane and the distance an object will roll? • Can students explain how the height of an inclined plane determines the speed at which an object moves? • Can students describe how the effect of friction determines an object's movement? • Can students observe and analyze shadows and the apparent path of the Sun across the sky from data collected?
Unit 4	Rocks, Soils, and Change	2 weeks	<p>Science as Inquiry: 1,4,5,6,8,9,10,11,12,15</p> <p>Earth & Space Science: 45,46,50,51,52</p>	<ul style="list-style-type: none"> • Can students describe the composition of rocks? • Can students explain how Earth's processes have affected their neighborhood? • Can students identify igneous, sedimentary, and metamorphic rocks? • Can students identify the components of soil? • Can students identify the characteristics of fossils? • Can students explain how fossil records are used to learn about the past?

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Unit 5	Plant and Animal Systems	3 weeks	<p>Science as Inquiry: 1,2,3,5,8,9,10,11,12,14</p> <p>Life Science: 34,35,36,37,38,39,40,41,42,43,44</p>	<ul style="list-style-type: none"> • Can students describe what the human body needs to grow and be healthy? • Can students give examples of how the structures of plants and animals enable each to meet their basic needs? • Can students cite common characteristics that are used to classify groups of organisms? • Can students describe the components and function of the digestive system and the skeletal system? • Can students describe what is meant by a balanced daily diet and determine if he or she (as well as his or her classmates) is meeting the requirements?
Unit 6	The Solar System	2 weeks	<p>Science as Inquiry: 1,2,4,5,9,11</p> <p>Physical Science: 25</p> <p>Earth and Space Science: 53,54,55,56</p>	<ul style="list-style-type: none"> • Can students explain why the Sun appears to be at different places in the sky during the day? • Can students explain why shadows get longer or shorter and change direction over time? • Can students name the planets in order from the Sun? • Can students explain how the rotation of Earth causes day and night? • Can students explain the results of the revolution of the Earth around the Sun?
Unit 7	The Environment	2 weeks	<p>Science as Inquiry: 1,2,3,5,8,9,10,11,12,15</p> <p>Science and the Environment: 57,58,59,60,61,62</p>	<ul style="list-style-type: none"> • Can students describe the interrelationships between the living and nonliving components of the environment? • Can students describe how changes to a habitat affect the organisms that live there? • Can students give both negative and positive changes in natural habitats that are caused by humans and how those changes affect animal and plant populations? • Can students list natural resources that are used to manufacture products? • Can students describe how renewable and nonrenewable resources can be replenished or depleted?
Unit 8	Weather Patterns	2 weeks	<p>Science as Inquiry: 1,2,3,4,5,7,8,9,10,11,12,17</p> <p>Earth & Space Science: 47,48,49</p>	<ul style="list-style-type: none"> • Can students differentiate weather from climate? • Can students describe the processes in the water cycle? • Can students identify and construct simple weather instruments to record the changes in the weather? • Can students accurately read and record the information gathered by each weather instrument?

Year-At-A-Glance: Science Fourth Grade

	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 1	Measuring and Comparing	2 weeks	Science as Inquiry: 1,2,3,4,5,6,8,9,10,12,13,21 Physical Science: 23,24,25,26,58	<ul style="list-style-type: none"> • Can students recognize the effect that size, mass, and volume have on the functioning of a variety of materials? • Can students use a graph to illustrate the interrelationship of measurements such as time, speed, and mass? • Can students make measurements in and compare the U.S. system and metric units? • Can students explain the water cycle?
Unit 2	Sound, Light, and Heat	5 weeks	Science as Inquiry: 1,2,3,4,5,6,7,8,10,11,12,13,15,18,20 Physical Science: 28,29,30,31,32,33,34,35,39	<ul style="list-style-type: none"> • Can students describe how sound is produced? • Can students describe how sound changes using the terms <i>volume</i> and <i>pitch</i>? • Can students define and describe white light? • Can students define and describe heat?
Unit 3	Electricity	2 weeks	Science as Inquiry: 2,3,6,8,9,12,13,21,22 Physical Science: 27,33,34,35,36,37,39	<ul style="list-style-type: none"> • Can students explain the elements required to make a light bulb work? • Can students demonstrate how to construct a complete circuit in order to conduct electricity? • Can students explain how a diagram can represent the flow of electricity?
Unit 4	Living Organisms	5 weeks	Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,16,17,18,19,21 Life Science: 40,43,45,46,47,48,49	<ul style="list-style-type: none"> • Can students explain the role of roots, stems, leaves, flowers, and seeds? • Can students sequence the steps in the life cycle of a plant? • Can students explain if new plants can only grow from seeds? • Can students explain photosynthesis? • Can students identify ways in which plants are beneficial to animals? • Can students explain the differences between complete and incomplete metamorphosis? • Can students describe the functions of the circulatory and respiratory systems?

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Unit 5	Ecosystems	5 weeks	<p>Science as Inquiry: 1,2,3,4,10,11,12,14,15,18,21,22</p> <p>Life Science: 41,47,50,51,52,53,54</p> <p>Science and the Environment: 70,71,72</p>	<ul style="list-style-type: none"> • Can students describe the components of an ecosystem? • Can students describe how plants and animals depend on each other in an ecosystem? • Can students describe how habitats are different from each other? • Can students explain how endangered animals can make a comeback? • Can students explain how an animal's adaptations enable it to survive in a specific habitat?
Unit 6	Planet Earth and Its Moon	10 weeks	<p>Science as Inquiry: 1,2,3,4,6,7,8,9,10,11,12,13,17,18,19,20</p> <p>Physical Science: 38</p> <p>Earth and Space Science: 57,58,59,60,61,62,63,64,65,66,67,68,69</p>	<ul style="list-style-type: none"> • Can students identify some processes and cycles that change Earth's surface? • Can students define the term <i>soil</i>? • Can students explain how to determine different properties of minerals and rocks? • Can students describe how weathering and erosion affect the location of human communities? • Can students explain the water cycle? • Can students use simple weather gathering tools to predict the weather? • Can students discern a pattern in observing the Moon?
Unit 7	Structure and Form of Living Things	3 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12,13,18</p> <p>Life Science: 40,41,42,52,53</p>	<ul style="list-style-type: none"> • Can students explain how plants get food? • Can students describe the purpose of plant leaves, stems, and roots? • Can students explain why animals have different parts, such as wings or webbed feet? • Can students name the organs of the respiratory system? • Can students name the organs of the circulatory system? • Can students describe how plants or animals adapt to their environment?
Unit 8	Food and Nutrition	2 weeks	<p>Science as Inquiry: 1,2,3,4,6,7,9,10,11,12,13,14,15,21</p> <p>Life Science: 43,44</p>	<ul style="list-style-type: none"> • Can students explain the My Pyramid and what it means to them? • Can students read and interpret a nutritional label? • Can students make good nutritional choices? • Can students describe how nutrients are used by the body?

Year-At-A-Glance: Science Fifth Grade

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Unit 1	Properties	3 weeks	<p>Science as Inquiry: 1,3,6,7,8,9,10,11,12,13,14,15 16,19, 22,23,28,35</p> <p>Physical Science: 1,2,3,4,6</p>	<ul style="list-style-type: none"> • Can students describe the differences between large and small quantities of similar masses, using metric and standard measurements? • Can students identify various objects by their measurements? • Can students describe the physical and chemical properties of various objects? • Can students describe some ways to group objects by properties and behaviors? • Can students use a periodic table and describe the structure of an atom, its relative mass, and the electrical charge? • Can students describe early models of the atom and explain how they have changed since first proposed by scientists? • Can students identify models of elements by their atom structure?
Unit 2	Reactions	3 weeks	<p>Science as Inquiry: 4,5,6,7,10,12,13,15,16,19,21 22,23,37</p> <p>Physical Science: 4,5,6,12</p>	<ul style="list-style-type: none"> • Can students describe the differences in the properties of water in three different phases of matter? • Can students model the movement of molecules of water in different phases and explain how this movement affects the phase of water? • Can students differentiate between physical changes and chemical changes and recognize that a chemical reaction is taking place? • Can students describe the properties of a substance that has undergone a chemical reaction (e.g., ash from burning a piece of paper)? • Can students give examples of both physical changes and chemical changes that take place during cooking?
Unit 3	Force, Motion, and Energy Transformations	4 weeks	<p>Science as Inquiry: 1,2,4,5,7,9,11,12,13,14,16,18 19,20,22,23,28,31,32,33,36,38</p> <p>Physical Science: 7,8,9,10,11,12,13,14</p> <p>Earth and Space Science: 39,41</p>	<ul style="list-style-type: none"> • Can students describe how to demonstrate a change in speed or direction of an object's motion by using an unbalanced force? • Can students identify the forces affecting a falling object? • Can students explain how energy is transferred? • Can students describe how potential and kinetic energy are alike and different? • Can students describe how various energy resources differ and give examples? • Can students identify the types of energy transformations that occur when an electrical appliance is used? • Can students explain why the Sun is the Earth's primary source of energy? • Can students trace the flow of energy from the Sun through other energy resources to objects that use it? • Can students describe how the position of a light source affects a shadow?

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Unit 4	Cells to Living Organisms	4 weeks	Science as Inquiry: 1,3,6,7,10,13,14,19,20,22,23 24,28,29,34,39 Life Science: 15,16,17,18,19,20,21,22	<ul style="list-style-type: none"> • Can students identify the basic components of living cells of all living things? • Can students compare/contrast plant and animal cells? • Can students describe the structural organization of cells, tissues, organs, and systems in a human body? • Can students describe the ways diseases are transmitted from person to person? • Can students describe the stages of metamorphosis of amphibians and identify other organisms that go through metamorphosis? • Can students explain how photosynthesis and respiration are alike and different in green plants? • Can students explain how respiration in plants and animals is similar and different? • Can students develop and use a dichotomous key to classify common plants and animals?
Unit 5	Ecosystems	6 weeks	Science as Inquiry: 1,2,3,5,6,10,15,16,17,18,19,21 22,23,24,26,27,33,34,37,38 Life Science: 23,24,25,26,27,28,29 Earth & Space Science: 36 Science and the Environment: 48,49,50,51	<ul style="list-style-type: none"> • Can students describe a system and state how changes to one part manifest themselves in others? • Can students name and describe a variety of ecosystems? • Can students identify essential components in a healthy ecosystem? • Can students describe the role decomposers play in the cyclical life process? • Can students identify limiting factors in an ecosystem? • Can students describe what is meant by <i>carrying capacity</i>? • Can students identify the levels of organisms in a food chain (producers, consumers, and decomposers) and explain the roles of each? • Can students explain the predator/prey relationship, using an example from one of the Louisiana habitats? • Can students identify the adaptations that were necessary for survival by plants and animals for some Louisiana ecosystems? • Can students identify the major chemical cycles that occur in ecosystems and explain what would happen if one of them did not exist? • Can students describe how changes, such as natural events like wildfires, hurricanes, or introductions of nonnative species, disrupt the populations of various animals in an ecosystem? • Can students describe naturally occurring cycles such as the carbon, nitrogen, water, and oxygen cycle and identify where they are found within an ecosystem?

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Unit 6	Earth: Its Lithosphere, Hydrosphere, and Atmosphere	5 weeks	<p>Science as Inquiry: 1,3,4,6,7,10,11,12,13,14,15,16 18,19,21,22,23,25,29,33,39</p> <p>Physical Science: 38</p> <p>Earth and Space Science: 30,31,32,33,34,35,38,43</p>	<ul style="list-style-type: none"> • Can students describe the processes they would use to identify the materials contained in the soil? • Can students identify and demonstrate some ways to classify rocks and minerals of Earth? • Can students describe some common uses of rocks and minerals? • Can students explain the economic value of common rocks and minerals? • Can students use a stream table representing the land to model destructive and constructive forces? • Can students explain how the forces of wind, ice, and water create erosion and model each type of erosion? • Can students explain when erosion could be a beneficial event? • Can students explain how the atmosphere and the hydrosphere differ? • Can students identify evidence that natural events have happened on Earth for a long period of time? • Can students communicate the differences in atmospheric components between Earth and other planets? • Can students generalize that the components of Earth’s atmosphere make it uniquely able to support life as we know it? •
Unit 7	Cycles and Climates	5 weeks	<p>Science as Inquiry: 1,3,4,5,7,10,11,13,14,15,16,18 19,20,21,22,23,29,30,33,37,38 39,40</p> <p>Physical Science: 5,12</p> <p>Earth and Space Science: 36,37,38,39,46</p> <p>Science and the Environment: 49,50,51</p>	<ul style="list-style-type: none"> • Can students describe how the processes of the hydrologic (water) cycle interact with one another? • Can students identify the processes in the hydrologic cycle that are affected by the Sun? • Can students describe different natural Earth cycles such as the carbon cycle, hydrologic cycle, nitrogen cycle, etc.? • Can students identify, describe, and compare the major climate zones? • Can students read a weather map? • Can students explain how progress in weather technology has improved the lives of people?

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Unit 8	Space	5 weeks	Science as Inquiry: 3,7,12,13,14,15,16,18,19,22 29,30,33,35,37,38,39 Earth and Space Science: 38,39,40,41,42,43,44,45,47	<ul style="list-style-type: none"> • Can students describe and draw a picture of the Sun that shows understanding of its components? • Can students explain the importance of the Sun to Earth and what effects, both positive and negative, it has on the Earth? • Can students describe what similarities and/or differences they would encounter if they could leave Earth, the “third rock from the Sun,” and travel to an inner or outer planet of their choice? • Can students explain how the celestial bodies (moons, asteroids, comets, meteoroids, meteors, and meteorites) are alike and different? • Can students model Earth’s rotation and revolution? • Can students describe the direction the stars appear to travel across the sky and explain the reason for this apparent movement? • Can students explain why Polaris is important? • Can students describe what tools and advances in technology have facilitated space exploration and the study of the universe? • Can students identify the basic sequence of events in space exploration?

Year-At-A-Glance: Science Sixth Grade

	Unit Title	Approximate Time Frame	GLEs	Guiding Questions
Unit 1	Building a Better Scientist	2 weeks	<p>Science as Inquiry: 1,2,4,5,6,7,8,10,11,12,19,22 23,25,31,32,33,34,36,37</p> <p>Physical Science: 1,19,20,33,35</p>	<ul style="list-style-type: none"> • Can students accurately use measurement tools to collect quantitative data? • Are students able to describe and classify common objects by their attributes? • Does the student's science learning log reflect their attention to the details of science, a consistent and legible recording of their observations and investigations, and does it adhere to the guidelines established by the teacher for format? • Does the student create concise, legible notes when using a written resource or text? • Do students practice safe science, and are they able to identify safety concerns?
Unit 2	Matter and Its Properties	6 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12,13 14,15,16,17,19,20,21,22,23 25,26,27,28,29,31,33,34,35 36,38,39,40</p> <p>Physical Science: 1,2,4,5,6,7,8,9,11,40</p>	<ul style="list-style-type: none"> • Can students explain the difference between mass and weight? • Can students determine the volume of regular-shaped and irregular-shaped objects? • Can students explain the difference between mass and density? • Can students determine the density of a liquid and a solid? • Can students differentiate a physical property from a chemical property? • Can students identify the chemical or physical changes associated with the reactions they observed in their investigations?
Unit 3	Elements, Compounds, and Reactions	5 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,10,11,12,14 15,16,18,19,21,22,23,25,28 29,30,31,33,34,35,36,37</p> <p>Physical Science: 1,3,4,5,9,10,12,13,18,30,40</p>	<ul style="list-style-type: none"> • Can students model atomic structure in chemical reactions? • Can students recognize and identify the factors that determine the rate of a chemical reaction? • Can students explain how an element's mass is determined from the periodic table? • Can the student explain the difference between covalent and ionic bonding? • Can students describe how the mass of the products in a chemical reaction compares with the mass of the reactants in that reaction?
Unit 4	Forces and Motion	4 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12,13 14,15,16,19,21,22,23,25,28 31,32,33,36,37,39</p> <p>Physical Science: 14,15,16,17,19,20,21,22,23 24</p>	<ul style="list-style-type: none"> • Can students state and explain Newton's three fundamental Laws of Motion? • Can students identify the forces that act upon objects and the effect those forces have on the object? • Can students relate their understanding of Newton's laws to real life situations?

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Unit 5	Properties of Energy	5 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,11,12,13,14 15,16,19,21,22,23,25,33</p> <p>Physical Science: 7,24,25,26,28,30,31,32,33,34 35,36,37,38,39</p> <p>Science and the Environment: 42,43,46</p>	<ul style="list-style-type: none"> • Can students identify examples of common uses for the various forms of energy? • Can students trace various forms of energy as they are transformed from one form to another? • Can students identify renewable, nonrenewable, and inexhaustible resources? • Can students describe how light is reflected and refracted? • Can students identify ways in which people can reuse, reduce and recycle resources?
Unit 6	Work, Power, and Efficiency	4 weeks	<p>Science as Inquiry: 1,2,3,4,5,6,7,8,9,10,11,12,16 18,19,21,22,23,28,29,31,32 36,37,39</p> <p>Physical Science: 22,23,27,29</p>	<ul style="list-style-type: none"> • Can students identify forces such as push, pull, lift, twist, and press? • Can students explain the relationship between kinetic energy and potential energy? • Can students describe the relationship between work input and work output in a simple machine? • Can students explain the relationship between work, power, and efficiency?
Unit 7	Energy Use and Renewal	3 weeks	<p>Science as Inquiry: 3,19,25,37,38,39,40,</p> <p>Physical Science: 39,41</p> <p>Science and the Environment: 42,43,44,45,46,47</p>	<ul style="list-style-type: none"> • Can students identify the sources of energy used in our society that allow it to function in its present state? • Can students tell how these sources of energy are used in our society? • Can students classify renewable and nonrenewable energy sources? • Can students determine who is affected by overuse of selected energy sources? • Can students explain potential environmental effects involved in the overuse of selected sources of energy?