

1st Grade - Elementary Science Bundle # 4

Title	Suggested Dates
Natural Resources (water)	10/26/09 – 11/13/09 (14 days)



Big Idea/Enduring Understanding	Guiding Questions
<p>The natural world consists of materials that we use in our everyday life.</p> <p>The natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems.</p>	<p>How do we use natural materials, such as water, in our everyday lives?</p> <p>What observations can we make about different types of water?</p> <p>How can we sort different water samples? Example: by clarity, source, bodies of water, foggy.</p>

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p>NEW TEKS 1.7 Earth and Space. The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems.</p> <p>1.7b identify and describe a variety of natural sources of water including streams, lakes, and oceans</p> <p>CURRENT TEKS 1.10 The student knows that the natural world includes rocks, soil, and water. 1.10a identify and describe a variety of natural sources of water including streams, lakes, and oceans</p>	<p>Including</p> <ul style="list-style-type: none"> • Rivers • Ponds • Creek • Relative size, water type (salt or fresh), general shape, movement 	<p>Resources listed here apply to the entire bundle.</p> <p>Science Notebooks</p> <p>IF I TRY: intranet and in the Sci Curr Info folder on each Campus Share folder</p> <p>KLEW/ Claims & Evidence</p> <p>PISD Elem Science Homepage</p> <p>PISD Safety Website -Safety Contracts, games, etc -Science Safety is Elementary (for teachers) -Safety in the Elementary Classroom (for teachers)</p> <p>DuPont Science Safety Zone website</p> <p>Texas Science Safety Standards</p> <p>PISD K-5 Equipment Alignment – part of Vertical Alignment document on curriculum page</p>
<p>NEW TEKS 1.7 Earth and Space. The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems.</p> <p>1.7c gather evidence of how rocks, soil, and water help to make useful products</p> <p>CURRENT TEKS 1.10 The student knows that the natural world includes rocks, soil, and water. 1.10c identify how rocks, soil, and water are used</p>	<p>Such As:</p> <ul style="list-style-type: none"> • Uses of water <ul style="list-style-type: none"> ○ Brushing teeth ○ Cooking ○ Cleaning • Recycling of water <ul style="list-style-type: none"> ○ Using rain water to water lawn and plants; clean ○ Capturing water to water lawn and plants; clean <p>Remember the verb intent is to “gather evidence” so this needs to be students gathering evidence (logs, journals, digital pictures, etc) of the items listed above and more.</p>	<p>DuPont Science Safety Zone website</p> <p>Texas Science Safety Standards</p> <p>PISD K-5 Equipment Alignment – part of Vertical Alignment document on curriculum page</p>

1st Grade - Elementary Science Bundle # 4

<p>and how they can be recycled</p> <p>NEW TEKS 1.5 Matter and energy. The student knows that objects have properties and patterns.</p> <p>1.5a classify objects by observable properties of the materials from which they are made such as larger and smaller; heavier and lighter; shape, color, and texture</p> <p>CURRENT TEKS 1.5 The student knows that organisms, objects, and events have properties and patterns. 1.5a sort objects and events based on properties and patterns</p>	<p>What properties do these have? Explore this natural resource by identifying the physical properties of it.</p> <p>Including</p> <ul style="list-style-type: none"> • Fresh water • Salt water • Colored water • Cloudy water • Water with sediment • Rain water • Tap water • Water in different containers • Relative volume / mass of water samples • Still water vs moving water • Temperature of water samples (this is foundational for HEAT TEKS in Bundle 9) <p>Viewing water samples under a field microscope</p>	<p>TAKScopes 1.10a – Streams, Lakes, and Oceans</p> <p>AIMS 1st Grade Texas Core Curriculum Earth Science Book “Sticking to Water” “Water From Stream to Sink”</p> <p>United Streaming “A First Look: Water” (skip “Phase Changes” and “Water Cycle”)</p> <p>PBSKids.org Reading Rainbow http://pbskids.org/readingrainbow/levar/adventure_jack_seal.html Levar’s Adventures Jack the Seal and the Sea</p> <p>NetTrekker Class Brain: Global Water Supply Lesson Plans</p>
<p>CURRENT TEKS 1.8 The student distinguishes between living organisms and nonliving objects. 1.8b compare living organisms and nonliving objects</p>	<p>TEACHER NOTE: this is a connecting TEKS in this bundle; review what makes something living vs non-living by applying to rocks (soil & water). Direct lessons with plants/animals are later in the year.</p>	
<p>NEW TEKS 1.1 Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices.</p> <p>1.1a recognize and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations including wearing safety goggles, washing hands, and using materials appropriately</p> <p>1.1b recognize the importance of safe practices to keep self and others safe and healthy</p> <p>CURRENT TEKS 1.1 Conducts classroom and field investigations following home and school safety procedures</p>	<p>No tasting or touching unless instructed Safe smelling – wafting Goggles Wait for teacher directions No glassware Students do not handle hot water, hot plates or burners. Washing hands with soap and water often; supplement by using classroom hand sanitizer</p> <p>Review investigation safety procedures [directly point out precautions, possible safety risks, specific guidelines for the lesson] for both indoor and outdoor activities, as applicable. In addition, encourage students to identify these on their own throughout the year [document in science notebooks via words and/or pictures]</p> <p>Appropriate procedures for water spills.</p> <p>Precautions taken for slippery surfaces (walking where it is wet or holding something wet)</p>	

1st Grade - Elementary Science Bundle # 4

<p>1.1a demonstrate safe practices during classroom and field investigations</p> <p>Health1.2 Health Behaviors. The student understands that safe, unsafe, and/or harmful behaviors result in positive and negative consequences throughout the life span.</p> <p>Health1.2a identify and use protective equipment to prevent injury</p> <p>Health 1.2d identify ways to avoid weapons and drugs or harming oneself or another person by staying away from dangerous situations and reporting to an adult</p> <p>Health1.2e identify safety rules that help to prevent poisoning</p> <p>Health1.10 Personal/Intrapersonal skills. The student comprehends the skills necessary for building and maintaining healthy relationships.</p> <p>Health1/10b practice refusal skills to avoid and resolve conflicts</p>	<p style="color: red;">Appropriate outdoor safety precautions for field investigations (i.e. visiting a creek)</p>	
<p>NEW TEKS</p> <p>1.1 Scientific investigation and reasoning. The student, for at least 80% of instructional time, conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices.</p> <p>1.1c identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic, and metals</p> <p>CURRENT TEKS</p> <p>1.1 Conducts classroom and field investigations following home and school safety procedures</p> <p>1.1b learn how to use and conserve resources and materials</p>	<p style="color: red;">TEACHER NOTE: Teach and use appropriate reuse and recycling of water</p> <p style="color: red;">Make note of and teach use of district-wide recycling resource.</p>	

1st Grade - Elementary Science Bundle # 4

<p>NEW TEKS 1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p> <p>1.2a ask questions about organisms, objects, and events observed in the natural world</p> <p>CURRENT TEKS 1.2 Develops abilities necessary to do scientific inquiry in the field and in the classroom 1.2a ask questions about organisms, objects, and events</p>	<p>Teacher guide and model the process using the Think-Aloud technique</p> <p>Variety of question types should be explored: closed and open ended</p> <p>Develop questions using resources such as Science Notebooks, KLEW charts and students sharing with one another</p> <ul style="list-style-type: none"> • Should primarily be oral – model writing • Conduct as a group rather than independently <p>EX: “What makes a stream and a river different?” OR “Does all water look the same?” OR “How is water represented on maps and globes? (student then observes and documents verbally and through notebook)</p>	
<p>NEW TEKS 1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p> <p>1.2b plan and conduct simple descriptive investigations such as ways objects move</p> <p>CURRENT TEKS 1.2 Develops abilities necessary to do scientific inquiry in the field and in the classroom. 1.2b plan and conduct simple descriptive investigations</p>	<p>Should occur both indoors and outdoors. Students are not held accountable for Scientific Method and do not need to know the terms, although teachers can use them interchangeably.</p> <p>Formal and informal terms in all areas of science should be used interchangeably for exposure.</p> <p>Teacher explicitly model the relationship between the question and the materials and steps used in the investigation: EX: Question on which rock weighs more –</p> <ul style="list-style-type: none"> • Materials – need the rocks and a tool to compare their weight • Steps – show the order of steps used in comparing the rocks on the balance • Model writing the materials and steps on a chart <p>Whole group setting: As the year progresses, facilitate students in helping choose the materials, tools and steps they would take to answer their questions</p>	
<p>NEW TEKS 1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p>	<p>Tools and equipment, including senses, should be used in authentic learning settings including outside field investigations</p> <p>Teacher model student recording of data (pictures, words)</p> <ul style="list-style-type: none"> • Create a big book of the science notebook to model 	

1st Grade - Elementary Science Bundle # 4

<p>1.2c collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools</p> <p>CURRENT TEKS 1.2 Develops abilities necessary to do scientific inquiry in the field and in the classroom. 1.2c gather information using simple equipment and tools to extend the senses</p>	<p style="color: red;">recording</p> <ul style="list-style-type: none"> ○ Investigation steps ○ Materials ○ Ideas <p style="color: red;">Support students as they move from initially copying compiled information into making their own authentic entries into their notebooks</p>	
<p>NEW TEKS 1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p> <p>1.2d record and organize data using pictures, numbers, and words</p> <p>1.2e communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations</p> <p>CURRENT TEKS 1.2 Develops abilities necessary to do scientific inquiry in the field and in the classroom. 1.2d construct reasonable explanations and draw conclusions 1.2e communicate explanations about investigations</p>	<p style="color: red;">Communicate both verbally and in science notebook (pictures, words, copying information from class discussion and teacher modeled big book science notebook entry)</p> <p style="color: red;">Mini-lessons can be used to model specific graphic organizers as they are needed. Students begin to record into their science notebooks by copying and authentic entries</p> <p style="color: red;">Can use KLEW charts to model connections between What they LEARNED – and the EVIDENCE for what they learned – or what was observed that supports their new ideas</p> <p style="color: red;">Encourage students to always support their ideas with evidence – from activities, observations, reading, etc.</p>	
<p>NEW TEKS 1.3 Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving.</p> <p>1.3a identify and explain a problem such as finding a home for a classroom pet and propose a solution in his/her own words</p> <p>CURRENT TEKS 1.3 Knows that information and critical thinking are used in making decisions. 1.3a make decisions using information 1.3b discuss and justify the merits of decisions</p>	<p style="color: red;">Introduce the fact that you can solve a problem or answer a question <u>through a systematic approach</u></p> <p style="color: red;">Student should use and reference their Science Notebooks and one another</p> <p style="color: red;">Student entries should be their elaboration based on class discussion from field experiences. EX: “How can I make still water move?” “How do we clean up large spills?”</p> <p style="color: red;">Model using the Think-Aloud technique (processes and steps to decision-making)</p>	

1st Grade - Elementary Science Bundle # 4

<p>1.3c explain a problem in his/her own words and identify a task and solution related to the problem</p> <p>Health1.3 Health behaviors. The student demonstrates basic critical-thinking, decision-making, goal-setting, and problem-solving skills for making health-promoting decisions</p> <p>Health1.3a explain ways to seek the help of parents/guardians and other trusted adults in making decisions and solving problems</p> <p>Health1.3b describe how decisions can be reached and problems can be solved</p> <p>Health1.3c explain the importance of goal setting and task completion</p>		
<p>NEW TEKS 1.4 Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world.</p> <p>1.4a collect, record, and compare information using tools, including cameras; computers; hand lenses; non-standard measuring items such as paper clips and clothespins, weather tools such as classroom demonstration thermometers and weather vanes; primary balances; cups; bowls, timing devices including clocks and timers; magnets; collecting nets; notebooks; materials to support observations of habitats of organisms such as aquariums and terrariums; and safety goggles</p> <p>CURRENT TEKS 1.4 Uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured.</p> <p>1.4a collect information using tools including hand lenses, clocks, computers, thermometers, and balances</p>	<p>Tools that support hands-on investigation must be taught, modeled, guided and used. Students should be able to independently and appropriately use a hand lens to view samples.</p> <p>Equipment should be utilized as appropriate (i.e. digital cameras for documentation of outdoor samples that are unable to be moved)</p>	
<p>NEW TEKS 1.4 Scientific investigation and reasoning. The</p>		

1st Grade - Elementary Science Bundle # 4

<p>student uses age-appropriate tools and models to investigate the natural world.</p> <p>1.4b measure and compare organisms and objects using non-standard units</p> <p>CURRENT TEKS 1.4 Uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. 1.4b record and compare collected information</p>		
<p>1.4c measure organisms and objects and parts of organisms and objects, using non-standard units such as paperclips, hands, and pencils</p>	<p><i>water in different containers</i></p> <p><i>two containers of water (same or different volumes) on a balance for relative “heaviness” [mass]</i></p>	
<p><i>NEW TEKS</i> 1.8 Earth and space. The student knows that the natural world includes the air around us and objects in the sky.</p> <p><i>1.8a record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy</i></p> <p><i>1.8c identify characteristics of the seasons of the year</i></p> <p><i>CURRENT TEKS</i> 1.7 Science concepts. The student knows that many types of change occur. <i>1.7c observe and record changes in weather from day to day and over seasons</i></p>	<p><i>Keep daily weather log (as part of morning weather / calendar routine).</i></p> <p><i>This models and provides experience gathering and recording data over time. The data will be used during Bundle 8 when there is more of a direct focus on weather.</i></p>	