


1st Grade - Elementary Science Bundle # 5

Title	Suggested Dates
Plants	 11/16/09 – 12/4/09 (12 days)

Big Idea/Enduring Understanding	Guiding Questions
Plants have characteristics that allow their basic needs to be met.	What kinds of changes in plants can we observe over time? How can we help plants grow? How do we use plants? How are all plants alike and different?

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 1.10 Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environment. 1.10b identify and compare parts of plants</p> <p>CURRENT TEKS 1.6 The student knows that systems have parts and are composed of organisms and objects. 1.6b observe and describe the parts of plants and animals</p>	<p style="color: red;">Including: roots, stems, leaves, flowers, seeds, fruit, thorns, spines, and other external parts</p> <p style="color: red;">TEACHER NOTE: Use a variety of plants / plant pictures / plant examples including: cacti, leafy plant, spiny plant, flower producing, fruit bearing, trees, weeds, etc</p> <p style="color: red;">Record in science notebooks</p>	<p>Resources listed here apply to the entire bundle.</p> <p>Science Notebooks</p> <p>IF I TRY (Intranet)</p> <p>KLEW/ Claims & Evidence</p> <p>PISD Elem Science Homepage</p> <p>PISD K-5 Equipment Alignment</p> <p>FOSS – Plants and Animals (can use for this bundle and Bundle 7- Animals /Interdependence)</p> <p>AIMS 1st Grade Texas Core Curriculum “Plants and Their Parts” “Designer Plants” “Soaking Seeds”</p> <p>United Streaming Debbie Greenthumb: Plants can Be Found Everywhere A First Look: Plants</p> <p>NetTrekker: Use search term <i>Plants</i></p>

1st Grade - Elementary Science Bundle # 5

		Select Website BBC Schools: Plants Activity Note: Promethean Board Friendly Enchanted Learning : Plant Printouts
<p>CURRENT TEKS 1.6 The student knows that systems have parts and are composed of organisms and objects.</p> <p>1.6a sort organisms and objects according to their parts and characteristics</p>	<p>Including by: plant parts, physical features of parts (i.e. variations of leaves and other plant parts), parts we eat, types of seeds (for sorting only – or sort seeds themselves; don't teach germination)</p>	
<p>CURRENT TEKS 1.9 The student knows that living organisms have basic needs.</p> <p>1.9a identify characteristics of living organisms that allow their basic needs to be met</p>	<p>TEACHER NOTE: Use a variety of plants / plant pictures / plant examples including: cacti, leafy plant, spiny plant, flower producing, fruit bearing, trees, weeds</p>	
<p>NEW TEKS 1.9 Organisms and environments. The student knows that the living environment is composed of relationships between organisms and the life cycles that occur.</p> <p>1.9a sort and classify living and nonliving things based upon whether or not they have basic needs and produce offspring</p> <p>CURRENT TEKS 1.8 The student distinguishes between living organisms and nonliving objects.</p> <p>1.8a group living organisms and nonliving objects 1.8b compare living organisms and nonliving objects</p>	<p>Connection: rocks and soil (nonliving) to plants (living) Current 1.8 has been supported in previous bundles; this bundle is more of a direct teach as it applies to plants and their basic needs</p>	
<p>CURRENT TEKS 1.7 The student knows that many types of change occur.</p> <p>1.7a observe, measure and record changes in size, mass, color, position, quantity, sound, and movement</p>	<p>color – seasonal changes, color as a sign of health, color to indicate a need growth – plant growth over time (would also change mass) position – to meet needs such as a plant leaning, turning, or growing toward light</p> <p>TEACHER NOTE: Plant movement is a response to a need, not a purposeful decision. There is a danger of students misunderstanding plant movement and equating that with animal movement.</p>	
<p>CURRENT TEKS 1.7 The student knows that many types of change occur.</p> <p>1.7d observe and record changes in the life cycle of organisms</p>	<p>Illustrate, label, and write about these in science notebooks</p> <p>TEACHER NOTE: Use a variety of plants / plant pictures / plant examples including: cacti, leafy plant, spiny plant, flower producing, fruit bearing, trees, weeds</p>	

1st Grade - Elementary Science Bundle # 5

<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>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>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 after science activities</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>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>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>TEACHER NOTE: Plants should be left in their natural environment. Documentation via science notebook, digital camera, and field microscopes are appropriate. Select samples, such as leaves, from ground if possible to minimize the impact on the plant.</p>	

1st Grade - Elementary Science Bundle # 5

<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 1.1 Conducts classroom and field investigations following home and school safety procedures. 1.1b learn how to use and conserve resources and materials</p>	<p>Plant samples brought into the classroom can be utilized after lesson indoors or allow students to determine appropriate location on campus grounds and plant.</p> <p>No investigation should be designed with the intent of causing harm or killing an organism.</p> <p>Make note of and teach use of district-wide recycling resource.</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>1.2a 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: “Do different plants require the same amount of items they need” OR “How can we help plants grow bigger?” OR “Will this plant grow bigger inside or outside?” (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: Questions on growing plants –</p> <ul style="list-style-type: none"> • Materials – plants, pots, soil(s) and/or different “needs” 	

1st Grade - Elementary Science Bundle # 5

	<ul style="list-style-type: none"> • Steps – show the order of steps used in growing/ providing needs • 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>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>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 recording <ul style="list-style-type: none"> ○ Investigation steps ○ Materials ○ Ideas <p>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>Communicate both verbally and in science notebook (pictures, words, copying information from class discussion and teacher modeled big book science notebook entry)</p> <p>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>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>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>Introduce the fact that you can solve a problem or answer a question <u>through a systematic approach</u></p> <p>Student should use and reference their Science Notebooks and one another</p>	

1st Grade - Elementary Science Bundle # 5

<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 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>Student entries should be their elaboration based on class discussion EX: From field experience: Are trees plants? “Should this type of plant be removed (i.e. weed)? Why?” “How do we use plants?”</p> <p>Model using the Think-Aloud technique (processes and steps to decision-making)</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>Tools that support hands-on investigation must be taught, modeled, guided and used.</p> <p>Equipment should be utilized as appropriate (i.e. digital cameras for documentation of outdoor samples that are unable to be moved)</p>	

1st Grade - Elementary Science Bundle # 5

<p>1.4a collect information using tools including hand lenses, clocks, computers, thermometers (Celsius/Fahrenheit), and primary and double pan balances for relative mass, bowls and cups (measuring cups second semester)</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>1.4b 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 1.4c measure organisms and objects and parts of organisms and objects using non-standard units such as paper clips, hands, and pencils</p>	<p>Measure organisms / parts of organisms both indoors and outdoors. Measure using non-standard units (such as paperclips or clothespins) EX: Measure a piece of bark, a leaf, a rock, model of an animal, anything found outside, misc. objects inside, etc</p> <p>Teacher modeled and guided</p> <p>Measure relative mass using a primary balance (independently) and/or double pan balance (teacher modeled)</p>	
<p>NEW TEKS 1.8 Earth and space. The student knows that the natural world includes the air around us and objects in the sky.</p> <p>1.8a record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy</p> <p>1.8c identify characteristics of the seasons of the year</p> <p>CURRENT TEKS 1.7 Science concepts. The student knows that many types of change occur. 1.7c observe and record changes in weather from day to day and over seasons</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>	