

1st Grade - Elementary Science Bundle #8

Title	Suggested Dates
Seasons & Weather (temperature and heat as they relate to seasons and weather)	2/1/10 – 2/19/10 (13 days)



Big Idea/Enduring Understanding	Guiding Questions
There are observable cycles, patterns and systems in the natural world.	<p>What kind of patterns does weather have?</p> <p>What can we observe about weather?</p> <p>How does weather affect you?</p> <p>What do we notice as the seasons change?</p> <p>What do you observe about the sky?</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 1.5 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>1.7 Science concepts. The student knows that many types of change occur. 1.7a observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p>	<p>CURRENT TEKS 1.7A: Relative temperature: hotter / colder warmer/cooler hot / warm cold / cool cold, cool, warm, hot hot, warm, cool, cold</p> <p>Classification here relates to different weather occurrences, seasons, days, etc.</p> <p>Example: What is the pattern related to when it is warmer outside (morning, midday, evening, night – fall, winter, spring, summer – sunny day, cloudy day, etc)</p>	<p>The resources apply, as applicable, throughout 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 style="text-align: center;">REQUIRED SIGNATURE LESSON</p> <p>Bridging to TAKS Light & Optics, “Magnificent Magnifiers” Note: It would be best to use this lesson at the <u>end</u> of the bundle to bridge into bundle. Master copy of lesson is founding in the campus library; every campus has the kit.</p>
<p>NEW TEKS 1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in</p>	<p>Including</p> <ul style="list-style-type: none"> • Seasons <ul style="list-style-type: none"> ○ Temperature & weather (general climate conditions) 	

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<p>classroom and outdoor investigations.</p> <p>1.2d record and analyze data using pictures, numbers, and words</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>	<ul style="list-style-type: none"> ○ length of days and nights ○ colors of the season ○ noticeable signs of the season (flower buds, leaves falling, etc) <p>Multiple methods of representing information</p>	<p><u>AIMS 1st Grade Texas Core Curriculum Earth Science Book</u> The Temperature Today, Weather Changes Dress for the Weather</p> <p><u>BrainPop Jr</u> – Seasons</p> <p><u>United Streaming</u> – The Four Seasons A First Look: Weather</p> <p>How to Make a Wind sock http://www.partymerchant.com/make_a_wind_sock.htm</p> <p style="text-align: center;"><i>or</i></p> <p><u>Enchanted Learning</u>: Patriotic Wind Sock Craft</p> <p>How to Make a Rain Gauge http://www.mcwa.com/kids.htm#gauge http://hubpages.com/hub/Fun-science-experiments-you-can-do-at-home-with-little-kids-with-stuff-you-have-on-hand--preferably-the-actual</p> <p><u>Scholastic.com</u> Use search term “Weather Watch” Observe: Track Clouds in the Sky</p>
<p>CURRENT TEKS 1.5 The student knows that organisms, objects, and events have properties and patterns. 1.5b identify, predict, and create patterns. including those seen in charts, graphs, and numbers (temperature)</p>	<p>Such as: weather, seasons</p> <p>TEACHER NOTE: 1st grade looks at BAR-LIKE graphs and data charts (using blocks, pictures, etc) as well as building from Kinder using real objects and pictures of objects (See MATH TEKS)</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</p>	<p>Compile data from daily weather logs and information kept throughout the year</p> <p>Use the data to discuss changes and characteristics of weather over the seasons</p> <p>Reinforce terms such as:</p> <ul style="list-style-type: none"> ● Hot / cold ● Clear / cloudy ● Calm / windy ● Rainy ● Icy 	

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<p>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>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>1.8b observe and record changes in the appearance of objects in the sky such as clouds, the moon, and stars including the sun</p> <p>1.8c identify characteristics of the seasons of the year</p> <p>1.8d demonstrate that air is all around us and observe that wind is moving air</p> <p>CURRENT TEKS 1.7 The student knows that many types of change occur. 1.7b identify and test ways that heat may cause change such as when ice melts</p>	<p>Including</p> <ul style="list-style-type: none"> • Heat from the sun • Changes in a thermometer (measurement of change) • Physical changes, such as a dog panting or a person perspiring • Objects melting (not always to full liquid) <p>TEACHER NOTES: This is noticing heat and the effects of heat as it relates to seasons and weather – not as in “changing states of matter”. EX: keeping temperature logs will show hotter days in the year and the pattern, or trend, by season will appear.</p> <p>Are there differences in the change heat causes by season? Ex: the relative rate of change (melting) is faster in the summer than in the winter.</p> <p>“Hot” is relative (opinion) and caused by ADDING heat and “cold” is relative (opinion) and caused by REMOVING heat. Focus should be on the changes that heat can cause and not changes in states of matter.</p>	
<p>1.7 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>**USE DATA RECORDED FROM BUNDLES 1-7, AS WELL AS CONTINUING TO COLLECT DATA**</p> <p>Including</p> <ul style="list-style-type: none"> • Students actively learning and using weather instruments to collect authentic data • Different forms of precipitation <ul style="list-style-type: none"> ○ Rain (shower, storm) ○ Snow ○ Hail • Changes in temperature, clothing, foliage, activities due to weather conditions <p>TEACHER NOTE: Cloud patterns are based on weather patterns; not cloud names. EX: cloudy, partly cloudy, no clouds EX: darker clouds represent rain or threat of rain Sun in relation to weather / temperature (behind clouds, with no clouds) and its position during the day (morning, heat of the day, evening) and the patterns of temperature that it produces (cooler in morning, hottest in middle part of day, cooler through evening)</p>	

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<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. 1.1a demonstrate safe practices during classroom and field investigations</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>Do not look directly at the sun Wear protective clothing related to weather conditions</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 1.2 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: “Is it always warmest in the middle of the day” OR “When is the warmest time of the day” OR “How can you tell if it is windy?” (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</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:</p>	

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<p>in the field and in the classroom 1.2b plan and conduct simple descriptive investigations</p>	<p>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>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</p>	<p>Introduce the fact that you can solve a problem or answer a question <u>through a systematic approach</u></p>	

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<p>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 1.3c explain a problem in his/her own words and identify a task and solution related to the problem</p>	<p>Student should use and reference their Science Notebooks and one another</p> <p>Student entries should be their elaboration based on class discussion EX: From field experience: What should you do if you are outside and see lightning?</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. 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 and guided) and used.</p> <p>Students will actively collect weather data using appropriate tools including: thermometer noticing position indicating warmer / cooler; students are not accountable for reading a thermometer, but can do so if developmentally ready. Teacher can supply precise temperature reading for data collection.</p> <p>weather vane (for observable wind activity, not direction of wind)</p> <p>wind sock (observable wind activity)</p> <p>anemometer (observable wind activity, good visual for power of wind **Students are not accountable for knowing anemometer or the fact that it measures wind speed**</p> <p>container for collecting rain (can be rain gauge but students are not responsible for reading measurement)</p> <p>Students should use both authentic tools/equipment as well as make their own models of tools/equipment</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>		

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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 an objects, using non-standard units such as paperclips, hands, and pencils