


1st Grade - Elementary Science Bundle # 11

Title		Suggested Dates
Motion		4/19/10 – 5/7/10 (15 days)

Big Idea/Enduring Understanding	Guiding Questions
Objects and organisms can change location due to motion.	How can organisms and object move?
Motion occurs in many forms.	How can motion cause change?
Magnets can cause motion.	How do magnets cause objects to move?

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 1.6 Force, Motion, and Energy. The student knows that force, motion, and energy are related and are a part of everyday life.</p> <p>1.6c describe a change in location of an object such as closer to, nearer to, and farther from</p> <p>1.6d demonstrate and record the way that objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow</p> <p>1.6b predict and describe how a magnet can be used to push or pull an object</p> <p>CURRENT TEKS 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>	<ul style="list-style-type: none"> • Recognize motion and changes by motion • Types of motion • Using force / energy to create motion <p>Connect concepts in this bundle directly to Bundle 10 experiences (always connect concepts to all previous concepts through examples and material choices made)</p> <ul style="list-style-type: none"> • measure any changes in position due to motion (linear, non-standard units of measure) • identify the motion • identify the beginning and ending positions • measure changes over time using timer and stopwatch <p>connect back to bundle with air movement (wind), change in Sun position throughout day, movement of clouds (relate to wind) and record connections (science notebook; can be whole group, teacher guided, and/or independent)</p> <p>Magnets are taught in previous bundle. Here the focus is how magnets (magnetic force) can cause movement/change.</p>	<p>Good “Center” activities: BBC - Physical Processes - Forces in Action</p> <p>BBC- Pushes and Pulls</p> <p>BBC – Forces and Movement</p> <p>United Streaming How Things Move The Blue Dragon: Slipping and Sliding</p> <p>AIMS 1st Grade Texas Core Curriculum Physical Science Book Twist & Twirl Buttons A Nose Pose Stick Tricks Sailboat Systems Parts Apart Cut-A-Part Systems</p>
<p>NEW TEKS 1.5 Matter and Energy. The student knows that objects have properties and patterns.</p>	<p>moves / does not move</p> <p>moves on its own / requires force (ex: push or a pull) to move</p> <p>things that move easily / things that are difficult to move</p> <p>things that move often / things that rarely move</p>	

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<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 Science concepts. 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>movement we see or use often in our daily life; movement we use only sometimes changes in movement (with and without a position change) small changes / large changes changes easily observable / changes not easily observable changes occurring quickly / changes occurring over time</p> <p>things that are close/ near & things that are far / farther away</p> <p>movement patterns: zig-zag, up & down, back & forth, round & round, fast & slow</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. 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>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>1.1c 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>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>

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<p>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>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: “How many different ways can I make this object move?” OR “How many different ways can I move?” (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>1.2c collect data and make observations using simple equipment such as hand lenses, primary balances,</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 	

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<p>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="text-align: center;">o Ideas</p> <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>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>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> <p>Student entries should be their elaboration based on class discussion EX: “Which way (movement pattern) would get me to the playground the fastest so that I get a swing?” What is the safest way to get down a hill? What is the fastest way to get down a hill”</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</p>	<p>Tools that support hands-on investigation must be taught (modeled and guided) and used.</p>	

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<p>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>Focus on use and develop understanding for use of hand lens;</p> <p>Students gain enough experience to independently use hand lens when appropriate</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 an objects, using non-standard units such as paperclips, hands, and pencils</p>		