
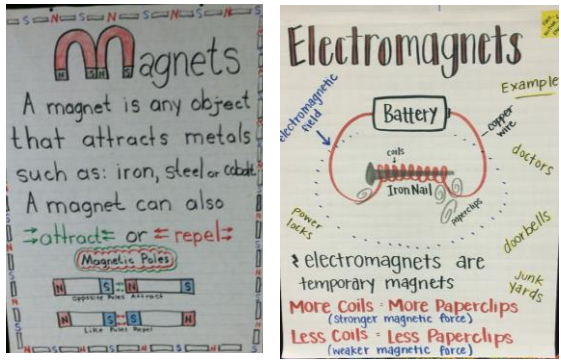
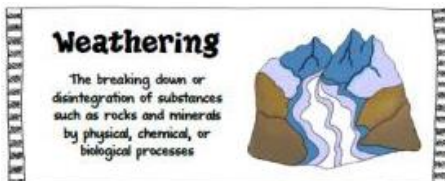
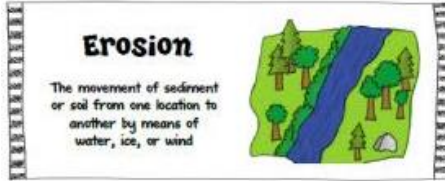
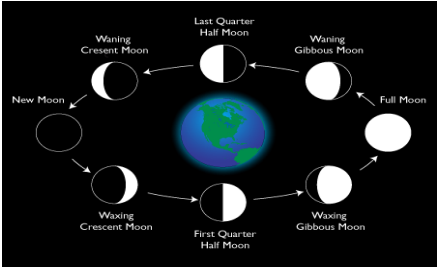
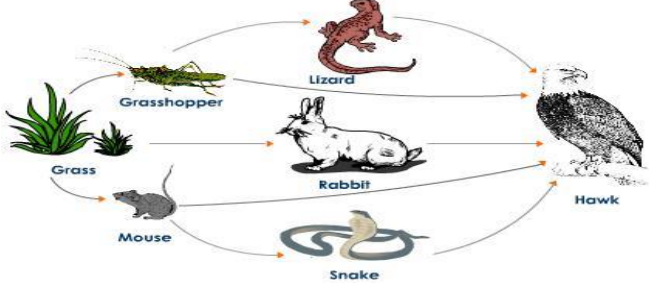


<p align="center"><b>1st Nine Weeks</b> August 22 – October 21</p>	<p align="center"><b>2nd Nine Weeks</b> October 24 – December 20</p>
<p><b>States of Matter</b></p> <ul style="list-style-type: none"> <li>Identify properties of solids, liquids and gases.                             <ul style="list-style-type: none"> <li>Solid – particles are arranged in a tight organized pattern and vibrate, while keeping its own shape and volume</li> <li>Liquid – particles move more freely, can slide past each other and takes the shape of its container but keeps the same volume</li> <li>Gas – particles move very quickly and have no definite volume or shape</li> </ul> </li> </ul> <div data-bbox="619 365 997 544" style="text-align: center;">  <p>Gas      Liquid      Solid</p> </div> <p><b>How Heat Affects Matter</b></p> <ul style="list-style-type: none"> <li>Investigate and record changes in matter by adding heat: melting (solid to liquid); evaporation (liquid to gas).</li> <li>Investigate and record changes in matter by reducing heat: condensation (gas to liquid); freezing (liquid to solid).</li> </ul> <p><b>Mass and Volume</b></p> <ul style="list-style-type: none"> <li>Use a balance to measure the mass (the amount of matter) of an object.</li> <li>Use centimeter or inch cubes to model and compare the volume (the amount of space taken up) of rectangular solids.</li> <li>Use graduated cylinders to find the volume of liquids and irregular solids (marble, shell, rock).</li> </ul> <p><b>Floating and Sinking</b></p> <ul style="list-style-type: none"> <li>Compare and contrast density of objects: more dense objects will sink.</li> <li>Compare how the shape of an object affects the ability to float (buoyancy).</li> </ul> <p><b>Solutions and Mixtures</b></p> <ul style="list-style-type: none"> <li>Compare and contrast mixtures and solutions such as rocks with sand, sand with water and sugar with water.                             <ul style="list-style-type: none"> <li>Mixture – maintains physical properties of its ingredients.</li> <li>Solution – mixtures that create a new substance and can't easily be separated.</li> </ul> </li> </ul> <p><b>Electrical Circuits</b></p> <ul style="list-style-type: none"> <li>Demonstrate that electricity travels through circuits.</li> <li>Be able to create a working circuit.</li> </ul> <p><b>Conductors and Insulators</b></p> <ul style="list-style-type: none"> <li>Identify objects that will conduct and insulate heat and electricity.                             <ul style="list-style-type: none"> <li>Conductors – will allow heat and electricity to pass through (paperclip, nail, pickle)</li> <li>Insulators – will not allow heat or electricity to pass through (paper, ribbon, plastic)</li> </ul> </li> </ul>	<p><b>Magnetism / Electromagnetism</b></p> <ul style="list-style-type: none"> <li>Define magnetism and identify characteristics of magnetic/nonmagnetic objects.</li> <li>Explore the properties of an electromagnetic field.</li> <li>Explain how to build an electromagnet.</li> </ul> <div data-bbox="1207 397 1764 755" style="text-align: center;">  </div> <p><b>Forms of Energy</b></p> <ul style="list-style-type: none"> <li>Identify different forms of energy.                             <ul style="list-style-type: none"> <li>Mechanical – energy from moving things</li> <li>Electrical – energy from moving electrons in a circuit</li> <li>Light – visible energy that comes from a source of light</li> <li>Thermal – energy from heat</li> <li>Sound – energy from vibrations</li> </ul> </li> </ul> <p><b>Force on an Object</b></p> <ul style="list-style-type: none"> <li>Demonstrate that a force can cause an object to move.</li> <li>Design an experiment to test the effects of force on an object (push, pull, gravity, friction, magnetism).</li> </ul> <div data-bbox="1501 1063 1942 1242" style="text-align: center;">  </div> <div data-bbox="1501 1266 1942 1445" style="text-align: center;">  </div> <p><b>Changes over Time</b></p> <ul style="list-style-type: none"> <li>Observe effects of events that require time for changes to be noticeable such as erosion and weathering.</li> </ul>

<p align="center"><b>3<sup>rd</sup> Nine Weeks</b> January 5 – March 10</p>	<p align="center"><b>4<sup>th</sup> Nine Weeks</b> March 20 – May 25</p>
<p><b><u>Properties of Soil</u></b></p> <ul style="list-style-type: none"> <li>• Test the properties of soils including texture, capacity to hold water and ability to support plant growth.</li> </ul> <p><b><u>Renewable / Nonrenewable Resources</u></b></p> <ul style="list-style-type: none"> <li>• Identify and classify renewable / nonrenewable resources.                             <ul style="list-style-type: none"> <li>○ Renewable – a resource that can be replenished easily (air, water, plants, animals)</li> <li>○ Nonrenewable – a resource that cannot be replaced quickly when used up (coal, oil, natural gas, rocks, minerals)</li> </ul> </li> </ul> <p><b><u>Conservation</u></b></p> <ul style="list-style-type: none"> <li>• Discuss the importance of conservation (saving natural resources) and ways to conserve within your community.</li> </ul> <p><b><u>Patterns of Change</u></b></p> <ul style="list-style-type: none"> <li>• Collect and analyze data to predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.</li> </ul>  <p><b><u>Weather</u></b></p> <ul style="list-style-type: none"> <li>• Measure and record changes in weather.</li> <li>• Use a weather map (symbols and key) to make predictions about changes.</li> </ul> <p><b><u>Water Cycle</u></b></p> <ul style="list-style-type: none"> <li>• Identify the Sun as the major source of energy for the Earth and describe how the Sun fuels the water cycle.</li> <li>• Illustrate that heat from the Sun causes water to evaporate from the Earth. The water vapor condenses into clouds and changes into precipitation. The precipitation collects and runs off.</li> </ul>	<p><b><u>Producers and Consumers</u></b></p> <ul style="list-style-type: none"> <li>• Know the difference between producers, consumers and decomposers.                             <ul style="list-style-type: none"> <li>○ Producers – organisms that create their own food (plants)</li> <li>○ Consumers – organisms that are dependent on others for food</li> <li>○ Decomposers – organisms that feed on nonliving organisms</li> </ul> </li> </ul> <p><b><u>Food Webs / Ecosystems</u></b></p> <ul style="list-style-type: none"> <li>• Describe the flow of energy through food webs, beginning with the Sun.</li> </ul>  <p align="center"><b>A Food Web in a Grassland Ecosystem With Five Possible Food Chains</b></p> <ul style="list-style-type: none"> <li>• Predict how changes in the ecosystem affect the food web such as a fire in a forest.</li> </ul> <p><b><u>Life Cycles</u></b></p> <ul style="list-style-type: none"> <li>• Explore, illustrate and compare life cycles of living organisms such as beetles, butterflies, radishes and lima beans.</li> </ul> <p><b><u>Adaptations</u></b></p> <ul style="list-style-type: none"> <li>• Explore how adaptations help an organism survive in its environment (bird beaks, claws, leaves on a plant, spines on a cactus).</li> </ul> <p><b><u>Learned Behaviors and Inherited Traits</u></b></p> <ul style="list-style-type: none"> <li>• Know the differences between learned behaviors and inherited traits.                             <ul style="list-style-type: none"> <li>○ Learned – characteristic that has to be taught (read a book, ride a bike, dog sitting when told)</li> <li>○ Inherited – instinct, characteristic that you are born with or already know how to do (breathing, hair color, eye color, birds migrating)</li> </ul> </li> </ul>

## PROCESS STANDARDS

Scientific Investigations and Reasoning Skill TEKS are taught throughout the school year during all content units.

### Safe and Environmental Practices

- demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and
- make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic.

### Scientific Inquiry

- plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions;
- collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps;
- construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data;
- analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured;
- perform repeated investigations to increase the reliability of results; and
- communicate valid, oral, and written results supported by data.

### Scientific Problem Solving

- in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
- draw inferences and evaluate accuracy of services and product claims found in advertisements and labels such as for toys, food, and sunscreen;
- represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size; and
- connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

### Tools and Models

- collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, pan balances, triple beam balances, graduated cylinders, beakers, hot plates, meter sticks, compasses, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and
- use safety equipment as appropriate, including safety goggles and gloves.