

**5th Grade Science**  
**PISD Curriculum: Year at a Glance**

<b>Overarching Themes: *Patterns *Cycles *Systems *Models *Change and Constancy</b>		
<b>Bundle</b>	<b>Title</b> Enduring Understanding	<b>Guiding Questions</b>
1	<p><b><i>Science Investigation and Reasoning/ Sun, Earth, &amp; Moon</i></b></p> <p>Students record, develop and share learning, using their science notebook as a storehouse for experiences, ideas and questions.</p> <p>Making responsible choices in the use of tools and materials and attending to possible hazards in all indoor and outdoor environments can ensure safe learning and conservation of resources in the natural world.</p> <p>Science is an ongoing cycle of questioning and problem solving.</p> <p>There are recognizable patterns among the Sun, Moon and Earth.</p>	<p>What evidence can you list to support similar characteristics of the sun, moon, and earth?</p> <p>What can you infer about gravity in relation to the earth, moon, and sun?</p> <p>How would you describe some of the basic changes/ patterns that occur on a regular basis with the sun, moon, and earth?</p> <p>How does a science notebook support science literacy and lifelong learning?</p> <p>What important practices help ensure safe field investigations?</p>
2	<p><b><i>Natural Patterns and Cycles</i></b></p> <p>Natural processes interact and influence complex systems.</p>	<p>How does the Sun affect the salinity of water on Earth?</p> <p>How is the water cycle a filtration system for Earth?</p> <p>What are the similarities and differences between “climate” and “weather”?</p> <p>Why is it important to recognize the patterns in weather to understand the climate of an area?</p>
3	<p><b><i>Change Over Time</i></b></p> <p>Changes over time affect the surface of the Earth and can be rapid and easily observed or gradual and hard to detect.</p>	<p>What evidence can landforms provide about Earth’s past?</p> <p>How can wind, water, and ice change the surface of the earth?</p> <p>How do past events affect present and future ones?</p>
4	<p><b><i>Resources</i></b></p> <p>Sedimentary layers and fossils are a record of the Earth’s past.</p> <p>Natural resources and fossil fuels are formed within sedimentary layers through natural processes.</p>	<p>What processes led to the formation of sedimentary rocks?</p> <p>What past events led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources?</p> <p>How are fossil fuels formed?</p> <p>Why are sedimentary rock layers and their locations significant in the formation of different landforms?</p>
5	<p><b><i>Properties of Matter</i></b></p> <p>Matter has measurable physical properties and those properties determine how matter is classified, changed, and used. .</p>	<p>How can matter be classified?</p> <p>What are the similarities and differences between mass and relative density of matter?</p> <p>In what ways can matter conduct and insulate heat?</p> <p>How is freezing point related to melting point?</p>
6	<p><b><i>Mixtures and Solutions</i></b></p>	<p>How do mixtures maintain their physical properties?</p>

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	Matter can be combined and separated for different purposes.	How can changes occur in physical properties resulting in solutions?  What are the similarities and differences between mixture and solutions?
7	<b><i>Forms of Energy</i></b>  Energy occurs in many forms and is used in our everyday lives.	What are the different forms of energy?  How does the earth's constant change result in useful energy resources?  How can each form of energy be observed as a cycle, pattern, or systems?  What are alternative energy sources?
8	<b><i>Energy in Motion</i></b>  Energy occurs in many forms and can be observed in cycles, patterns, and systems.	Why does energy in circuits require a complete path to flow?  How is each form of energy used?  How are the forms of energy similar? Different?  What are the similarities and differences between reflection and refraction?
9	<b><i>Structures and Functions of Organisms</i></b>  Organisms undergo similar life processes and have structures that help them survive within their environments.	What are "adaptive characteristics" and what purpose do they serve?  Do all organisms have "adaptive characteristics"?  What is the difference between inherited traits and learned behaviors?  What patterns in the natural world provide evidence of inherited traits?
10	<b><i>Interdependence / Review</i></b>  There are relationships, systems, and cycles within environments that are required for the environment to function and organisms to survive.  Environments consist of both living and non-living elements.  Environments are both positively and negatively affected by changes caused by organisms, including humans.	What are the roles of consumers and decomposers within an environment?  Why is it important to understand the environment?  What can be done to ensure minimal negative impact on the environment?  What happens when one small portion of the environment is removed or affected?
11	<b><i>Review / TAKS / Force &amp; Engineering</i></b>  Forces can affect objects.	What would be involved, from the initial question forward, in designing an experiment be designed to test the effect of a force?
12	<b><i>Enrichment</i></b>	Questions depend on student's choice and ideally will be student-generated.