

**7<sup>th</sup> Grade Science**  
**PISD Curriculum: Year at a Glance**

<b>Bundle</b>	<i>Title</i> Big Ideas/Enduring Understandings	<b>Guiding Questions</b>
1	<p><b><i>Nature of Science</i></b></p> <ul style="list-style-type: none"> <li>▪ Scientists approach problems systematically and use specific tools to solve problems.</li> </ul>	<ul style="list-style-type: none"> <li>▪ What are scientific methods?</li> <li>▪ What are effective ways to communicate results?</li> <li>▪ How do we choose the appropriate tools used to collect data?</li> </ul>
2	<p><b><i>Force/Motion &amp; Simple Machines</i></b></p> <ul style="list-style-type: none"> <li>▪ Force is needed to change motion.</li> </ul>	<ul style="list-style-type: none"> <li>▪ How does force affect motion?</li> <li>▪ How do simple machines affect your life?</li> </ul>
3	<p><b><i>Properties of Matter</i></b></p> <ul style="list-style-type: none"> <li>▪ Each element on the Periodic Table of Elements is unique with its own physical and chemical properties.</li> </ul>	<ul style="list-style-type: none"> <li>▪ How are the elements organized on the periodic table?</li> <li>▪ What makes each element unique?</li> </ul>
4	<p><b><i>Structures of Matter</i></b></p> <ul style="list-style-type: none"> <li>▪ Compounds are composed of elements and have unique physical and chemical properties different from their component elements.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Why aren't compounds on the periodic table (ex: H<sub>2</sub>O)?</li> <li>▪ How do chemical changes impact our daily lives?</li> </ul>
5	<p><b><i>Earth Processes</i></b></p> <ul style="list-style-type: none"> <li>▪ Land features are created and/destroyed through many of Earth's processes and through human activities.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Why is the earth's surface the way it is?</li> <li>▪ What is the effect of human use of resources both regionally and globally?</li> <li>▪ What resources will be used in the future?</li> </ul>
6	<p><b><i>Catastrophic Events</i></b></p> <ul style="list-style-type: none"> <li>▪ Catastrophic events can alter Earth systems.</li> </ul>	<ul style="list-style-type: none"> <li>▪ What will the Texas coastline look like 100 years from now?</li> <li>▪ How would your community be affected by a catastrophic event?</li> </ul>
7	<p><b><i>Organization of &amp; Relationships w/in Ecosystems</i></b></p> <ul style="list-style-type: none"> <li>▪ There is a relationship between organisms and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Where does all of the energy in an ecosystem originate?</li> <li>▪ How is energy transferred between organisms within an ecosystem?</li> <li>▪ How do stimuli affect plant growth and adaptation?</li> <li>▪ What are the biotic and abiotic components of an ecosystem?</li> </ul>
8	<p><b><i>Biomes &amp; Adaptations</i></b></p> <ul style="list-style-type: none"> <li>▪ Organisms adapt to different ecosystems around the world.</li> </ul>	<ul style="list-style-type: none"> <li>▪ How does an ecosystem recover after a catastrophic event?</li> <li>▪ How does human use of resources affect the area from which they are harvested? What is the effect on the entire biosphere?</li> </ul>

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9	<p><b><i>Genetics &amp; Adaptations</i></b></p> <ul style="list-style-type: none"> <li>▪ Traits are passed down from generation to generation and help organisms survive.</li> </ul>	<ul style="list-style-type: none"> <li>▪ How are traits passed from generation to generation?</li> <li>▪ Why are some traits expressed more often than others?</li> <li>▪ Which types of reproduction lead to uniform or diverse populations?</li> </ul>
10	<p><b><i>Human Body</i></b></p> <ul style="list-style-type: none"> <li>▪ The structures of the human body directly relate to their functions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Which systems / organs are essential to your survival?</li> <li>▪ What forces are at work in the body and where can they be found?</li> </ul>
11	<p><b><i>Human Body</i></b></p> <ul style="list-style-type: none"> <li>▪ Humans maintain homeostasis by responding to internal and external stimuli.</li> <li>▪ Simple machines can be found within the body.</li> <li>▪ Matter and energy are processed by the human body through chemical reactions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ How does the body respond to internal and external stimuli to maintain homeostasis?</li> <li>▪ What chemical changes are happening within the body?</li> </ul>
12	<p><b><i>Earth and Moon</i></b></p> <ul style="list-style-type: none"> <li>▪ Night and day, the seasons, and the phases of the moon are the result of the positions and movement of the moon, earth and sun in space.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Why does the moon appear to change shape?</li> <li>▪ Why can we see the moon during the day sometimes?</li> <li>▪ What is an eclipse?</li> <li>▪ What causes the seasons?</li> <li>▪ What causes day and night?</li> </ul>