



**8th Grade Science/STEM
Year at a Glance (YAG)
2021-2022**



First Semester

1 st Nine Weeks – 41 days (August 16 th – October 13 th) (September 6 th – Labor day – No School) (October 11 th – Staff Development)		2 nd Nine Weeks – 42 days (October 14 th – December 17 th) (November 22 nd – 26 th – Thanksgiving Break) (December 20 th – January 3 rd – Holiday Break)	
<p><u>TEKS</u></p> <p>8.1-8.4 Processing TEKS</p>	<p>Scientific Investigation, Reasoning, and Safety (5 days) During this week, students will demonstrate safe practices during laboratory and field and practice appropriate use and conservation of resources. Students will use appropriate tools, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectroscopes, timing devices, and other necessary equipment to collect, record, and analyze information. Students will also review the use of preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher.</p>	<p><u>TEKS</u></p> <p>8.5A, 8.5B, 8.5C, & 8.5E</p>	<p>Matter & Energy (42 days) This unit starts off with an expectation that students describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud. Next, students will need to identify that protons determine an element’s identity and valence electrons determine its chemical properties, including reactivity.</p> <p>This unit bundles student expectations that require students to interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements. During this unit, students will also need to recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts. Heavy emphasis will also be on investigating how evidence of chemical reactions indicates that new substances with different properties are formed and how that relates to the law of conservation of mass. In addition, 6th grade science TEKS are spiraled in during this unit to support the learning. These spiraled TEKS include asking students to distinguish between physical and chemical changes in matter, compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability, and asking students to calculate density to identify an unknown substance.</p>
<p>8.7A, 8.7B, 8.7C</p>	<p>Earth & Space (10 days) During this bundled uit, students will model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons. Students will also need to demonstrate and predict the sequence of events in the lunar cycle. Lastly, students will relate the positions of the Moon and Sun to their effect on ocean tides.</p>		
<p>8.8A, 8.8B, 8.8C, 8.8D*</p>	<p>Earth & Space (26 days) During this bundled unit, students will describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification. Students should be able to recognize that the Sun is a medium-sized star located in a spiral arm of the Milky Way galaxy and that the Sun is many thousands of times closer to Earth than any other star. In addition, students will need to be able to identify how different wavelengths of the electromagnetic spectrum such as visible light and radio waves are used to gain information about components in the universe. During this unit, TEKS that spiral from the previous 6th grade level includes the ability for students to understand that gravity is the force that governs the motion of our solar system. *It is important to note that 8.8D “students will research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe” is not a STAAR accessed part of this curriculum.</p>		

