

6th grade Science Scope & Sequence

1 st Six Weeks	2 nd Six Weeks
<ul style="list-style-type: none"> ❖ Unit 0: The First Five Days (5 days) Aug. 14 - Aug. Aug. 20 https://casel.org/wp-content/uploads/2017/01/Competencies.pdf ❖ Big Ideas: Develop classroom culture, building community, and establish rules and procedures <ul style="list-style-type: none"> ➤ Self-Awareness ➤ Self-Management ➤ Social Awareness ➤ Relationship Skills ➤ Responsible Decision-M ❖ Unit 1: Cells , Classifying Organisms, (19 days) Aug. 21- Sept 19 <ul style="list-style-type: none"> ➤ Big Ideas: <ul style="list-style-type: none"> ▪ Cells are the basic unit of life. ▪ The presence of a nucleus determines whether a cell is prokaryotic or eukaryotic. ▪ Students will identify the characteristics of organisms that classify them into the currently recognized Domains and Kingdoms. They will recognize the Domain as the broadest classification of organisms and understand the relationship between the Domains and Kingdoms based on characteristics used for the classification of organisms. ➤ Important Concepts: <ul style="list-style-type: none"> ▪ Students will learn about the cell theory, scientists who led to the development of the cell theory, and how to use a microscope to determine that organisms are composed of cells. Additionally, they will compare and contrast basic characteristics that are used to classify organisms into the broadest taxonomic categories of Domains and Kingdoms. ▪ Students will learn the basic cell organelles and the difference between plant and animal cells ➤ Readiness TEKS:6.12D 	<ul style="list-style-type: none"> ❖ Unit 2: Ecosystems, Elements & Compounds, Metals, Nonmetals, Metalloids, (24 days) Sept. 24- Nov 1 <ul style="list-style-type: none"> Big Ideas: <ul style="list-style-type: none"> ▪ Students will describe the biotic and abiotic interactions of several ecosystems and diagram the levels of organization within an ecosystem ▪ Be able to differentiate between elements and compounds on the most basic level ▪ Compare metals, nonmetals, and metalloids using physical properties ➤ Important Concepts: <ul style="list-style-type: none"> ▪ Describe biotic and abiotic parts of an ecosystem ▪ Diagram the levels of organization within an ecosystem ▪ students will differentiate common compounds by name and symbol ▪ Students will learn how the periodic table is used to classify metals, non-metals, and metalloids by their properties. ➤ Readiness TEKS: 6.5A,6.6A ➤ Supporting TEKS: 6.5B, 6.12E , 6.12F

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<p>➤ Supporting TEKS: 6.12A, 6.12B,6.12C</p>	
3rd Six Weeks	4th Six Weeks
<p>❖ Unit 3 Physical Properties: Density, Chemical Changes, Energy Introduction, (24 days) Nov. 6 - Dec. 19</p> <p>Big Ideas:</p> <ul style="list-style-type: none"> ▪ Density can be calculated to identify an unknown substance ▪ Physical changes include: phase changes, boiling, freezing, melting, dissolving and mixing, addition of color, changes to size or shape. ▪ Identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, production of a precipitate, or color change <p>➤ Important Concepts:</p> <ul style="list-style-type: none"> ▪ Students will calculate density of a regular, measurable solid and the density of an irregular shaped solid (voLume by displacement) ▪ Calculate density to identify an unknown substance ▪ Identify the formation of a new substance by using evidence of possible chemical changes ▪ Compare and contrast potential and kinetic energy <p>➤ Readiness TEKS: 6.6B,6.8A</p>	<p>❖ Unit 4: Energy Transfer: Thermal Energy, Energy Transformations, Energy Resources, (24 days) Jan. 14- Feb. 21</p> <p>➤ Big Ideas:</p> <ul style="list-style-type: none"> ▪ Thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature ▪ Thermal energy can be transferred through conduction, convection and radiation ▪ Earth's energy resources are available on a nearly perpetual basis, while others can be renewed over a relatively short period of time. <p>➤ Important Concepts:</p> <ul style="list-style-type: none"> ▪ investigate the methods of thermal energy transfer, including conduction, convection, and radiation ▪ demonstrate energy transformations ▪ Nonrenewable resources are finite (limited), including coal, oil, natural gas, and nuclear power ▪ Renewable resources are always available or renewed in a short period of time (easily replenished), including biomass, wind, hydropower, geothermal, and solar. ▪ Advantages and disadvantages may include but are not limited to: the effect on the environment as energy conversions occur to

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<ul style="list-style-type: none"> ➤ Supporting TEKS: 6.6C,6.5C 	<p>another form, pollution (including greenhouse gases, air pollution, strip mining, water pollution), cost to obtain, transform, use or transport materials or energy, waste materials produced when converted to another form, ease of use, locations available, availability (time, abundance) and renewability of resource.</p> <ul style="list-style-type: none"> ➤ Readiness TEKS: 6.9A,6.9C ➤ Supporting TEKS: 6.9B,6.7A,
5th Six Weeks	6th Six Weeks
<ul style="list-style-type: none"> ❖ Unit 5: Force and Motion, Graphing Motion, Simple Machines (24 days) Feb. 24- Apr. 17 ➤ Big Ideas: <ul style="list-style-type: none"> ▪ Force and motion are related to potential and kinetic energy ▪ Unbalanced forces do not always cause an increase in motion of an object. Unbalanced forces cause change in motion. ▪ Balanced forces can be acting on an object moving at a constant speed and direction. ▪ “Average speed” is calculated using the “average speed= total distance / total time” equation. ▪ Student should determine/understand that an inclined plane decreases the amount of force required to lift the object by increasing the distance over which the object is moved, the longer the inclined plane the less the force required to lift the mass to the same height, and that an inclined plane changes the direction in which the force is applied. ➤ Important Concepts: <ul style="list-style-type: none"> ▪ inclined planes and pulleys can be used to change the amount of force to move an object ▪ compare and contrast potential and kinetic energy ▪ identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces. 	<ul style="list-style-type: none"> ❖ Unit 6: Structure of Earth: ayers and Rock Cycle, Plate Tectonics Space (24 Days) Apr. 20- Jun. 2 ➤ Big Ideas: <ul style="list-style-type: none"> ▪ The student understands the structure of Earth, the rock cycle, and plate tectonics. ▪ The student knows the differences between elements and compounds. ▪ The student understands the structure of Earth, the rock cycle, and plate tectonics. ▪ Theory of Plate Tectonics is the theory that pieces of Earth’s lithosphere are in constant motion on the asthenosphere. The motion is driven by convection currents in the mantle – the theory offers explanation of how plate movements occurs ➤ Important Concepts: <ul style="list-style-type: none"> ▪ Identify the compositional and mechanical layers of Earth ▪ Use available material to construct modes of Earth layers ▪ Use graphs to demonstrate percentages of elements that comprise the crust. ▪ Use maps with continents labeled and without continents labeled to identify and locate the major tectonic plates from multiple perspectives. ▪ Describe how plate tectonics cause: divergent boundaries, convergent boundaries, and transform boundaries. ➤ Readiness TEKS: 6.10B, 6.11A

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<ul style="list-style-type: none">▪ calculate average speed using distance and time measurements▪ measure and graph changes in motion <p>➤ Readiness TEKS: 6.8C,6.8A</p> <p>➤ Supporting TEKS: 6.8B, 6.8A, 6.8E</p>	<p>➤ Supporting TEKS: 6.10A,6.6C,6.10C, 6.10D,6.11B,6.11C</p> <p style="text-align: right;">Processing Standards: _____ Taught Throughout</p>
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