

5th Grade Science Lee's Summit Curriculum Year at a Glance

<p>Engineering, Technology, and Application of Science <i>Engineering Standards should be ongoing and continually integrated into science lessons/units.</i></p> <p style="text-align: center;">Standards should be recorded in Q 3, 4</p> <p><i>The ETS standards are written as a 3-5 grade span end point. Therefore, by the end of grade 5, students should be proficient in these skills.</i></p>	<p style="text-align: center;">Physical Science Unit 1: Matter and Its Interactions</p> <p style="text-align: center;">Estimated Teaching Window: August-October Standards should be recorded in Q1</p>	<p style="text-align: center;">Life Science Unit 2: Ecosystems and the Energy Within</p> <p style="text-align: center;">Estimated Teaching Window: October-December Standards should be recorded in Q2</p>	<p style="text-align: center;">Earth & Space Science Unit 3: Earth's Systems</p> <p style="text-align: center;">Estimated Teaching Window: January-March Standards should be recorded in Q3</p>
<p>Essential Standard: Students will understand and use scientific and engineering practices to conduct investigations and solve problems</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (MLS: 5.ETS1.A.1, NGSS: 5.ETS1.A) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. (MLS: 5.ETS1.B.1, NGSS: 3-5-ETS1-2.) Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (MLS: 5.ETS1.C.1, NGSS: 3-5-ETS1-3) 	<p>Essential Standard: Students will understand the structure, properties, changes, and interactions of matter.</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> Develop a model to describe that matter is made of particles too small to be seen. (MLS: 5.PS1.A.1, NGSS: 5-PS1-1) Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. (MLS: 5.PS1.A.2, NGSS: 5-PS1-2) Plan and conduct investigations to separate the components of a mixture/solution by their physical properties (i.e., sorting, filtration, magnets, and screening). (MLS: 5.PS1.B.1, Not in NGSS) Conduct an investigation to determine whether the combining of two or more substances results in new substances. (MLS: 5.PS1.B.2, NGSS: 5-PS1-4) <p>Learning Target:</p> <p>Engineering, Technology, and Application of Science</p> <ul style="list-style-type: none"> Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (MLS: 5.ETS1.C.1, NGSS: 3-5-ETS1-3) 	<p>Essential Standard: Students will understand the interdependence among organisms and the transfer of energy.</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> Compare and contrast the major organs/organ systems (e.g., support, reproductive, digestive, transport/circulatory, excretory, response) that perform similar functions for animals belonging to different vertebrate classes. (MLS: 5.LS1.A.1, Not in NGSS) Support an argument that plants get the materials (i.e., carbon dioxide, water, and sunlight) they need for growth chiefly from air and water. (MLS: 5.LS1.C.1, NGSS: 5-LS1-1) Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. (MLS: 5.LS2.B.1, NGSS: 5-LS2-1) Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. (MLS: 5.PS3.D.1, NGSS: 5-PS3-1) 	<p>Essential Standard: Students will analyze the interactions of various Earth systems and understand the impact of human activity.</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. (MLS: 5.ESS2.A.1, NGSS: 5-ESS2-1) Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. (MLS: 5.ESS2.C.1, NGSS: 5-ESS2-2) Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. (MLS: 5.ESS3.C.1, NGSS: 5-ESS3-1) <p>Essential Standard: Students will use scientific and engineering practices to conduct investigations and solve problems.</p> <p>Engineering, Technology, and Application of Science</p> <ul style="list-style-type: none"> Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (MLS: 5.ETS1.A.1, NGSS: 5.ETS1.A) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. (MLS: 5.ETS1.B.1, NGSS: 3-5-ETS1-2.)

<p align="center">Earth & Space Science</p> <p align="center">Unit 4: Earth's Place in the Universe</p> <p align="center">Estimated Teaching Window: March-May <i>Standards should be recorded in Q4</i></p>	<p align="center">Life Science</p> <p align="center">Unit 5: Immune System</p> <p align="center">Estimated Teaching Window: May <i>Standards should be recorded in Q4</i></p>		
<p>Essential Standard: Students will understand the major components and patterns observed in the universe.</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> • Support an argument that relative distances from Earth affect the apparent brightness of the Sun compared to other stars. (MLS: 5.ESS1.A.1, NGSS: 5-ESS1-1) • Make observations during different seasons to relate the amount of daylight to the time of year. (MLS: 5.ESS1.B.1, Not in NGSS) • Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. (MLS: 5.ESS1.B.2, NGSS: 5-ESS1-2) • Support an argument that the gravitational force exerted by Earth on objects is directed toward the planet's center. (MLS: 5.PS2.B.1, NGSS: 5-PS2-1) 	<p>Essential Standard: Students will define and explain the function of the human immune system.</p> <p>Learning Targets:</p> <ul style="list-style-type: none"> • Describe the basic function of the immune system. (LS Curriculum 5_SC_6_A) • Describe and compare ways the human body prevents and fights disease. (LS Curriculum 5_SC_6_B) • Distinguish between a communicable and non-communicable disease. (LS Curriculum 5_SC_6_C) <p>Essential Standard: Students will use scientific and engineering practices to conduct investigations and solve problems.</p> <p>Engineering, Technology, and Application of Science</p> <ul style="list-style-type: none"> • Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. (MLS: 5.ETS1.C.1, NGSS: 3-5-ETS1-3) 		