

Grade 6 Scope and Sequence (rev. 2018-2019)

<u>Investigating Weather and Climate</u> September/October	<u>Electricity and Magnetism (Energy)</u> November/December/January	<u>Science Celebration</u> February	<u>Ecosystems (Interdependence)</u> March/April	<u>Humans Impact on Earth's Climate (Diversity of Life)</u> May/June
<ul style="list-style-type: none"> ● If the climate is still changing then why do we still have such cold winters ? 	<ul style="list-style-type: none"> ● How does energy flow through electrical systems and magnetic fields? ● How can we minimize or maximize the transfer of heat ? 	<ul style="list-style-type: none"> ● Students will be involved in their Science Fair Projects. (see rubric) 	<ul style="list-style-type: none"> ● Why does the Earth never run out of matter or energy? 	<ul style="list-style-type: none"> ● Can humans change Earth's climate?
<ul style="list-style-type: none"> ● Ask questions and collect data about the weather to understand why changes in weather and climate occur. ● Develop models to explain how complex interactions driven by energy cause changes in weather conditions and the patterns of atmospheric and oceanic circulation that determine regional climates. 	<ul style="list-style-type: none"> ● Investigate the transfer and transformation of energy in electricity and magnetism. ● Develop an understanding of electric and magnetic forces within series and parallel circuits. ● Conduct investigations and evaluate experimental designs to deepen understanding of the relationship between electricity and magnetism. ● Use qualitative observations, to develop questions that can be investigated regarding the transfer and flow of energy through matter. By the end of this unit students can then 	<ul style="list-style-type: none"> ● Identify variables ● Identify common experimentation errors <p>Projects</p> <ul style="list-style-type: none"> ● Select an appropriate topic ● Create a testable question for topic ● Create a testable hypothesis in an if/then format. ● Identify variables ● Write a procedure with materials list ● Revise procedure with experimentation errors in mind ● Create a plan for recording data ● Plan for the correct graph type ● Complete an experiment and record data ● Write a conclusion that discusses hypothesis, summarizes data, has real world application, and 	<ul style="list-style-type: none"> ● Analyze and interpreting data in order to understand the relationships among organisms, populations, and their resources. ● Students develop models to represent the flow of energy and cycling of matter within ecosystems. ● Develop arguments about how changes in the ecosystem affect the populations in these ecosystems, understanding that some communities need more energy than others to maintain stability. 	<ul style="list-style-type: none"> ● Analyze and interpret historical global weather data in order to understand how energy affects Earth's global and regional temperatures, and how such energy transfer is impacted by human activities. ● Identify patterns and use technology as a means to forecast and prepare for future severe weather events. ● Define problems pertaining to Earth's changing climate ● Apply scientific principles to design solutions for minimizing human impact on the environment.

	<ul style="list-style-type: none">● Predict changes in natural phenomena related to matter and energy.● Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.	<p>discusses follow up for further experimentation</p> <ul style="list-style-type: none">● Present presentation		
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