

**Curriculum Map  
Theme: Power of Change (2020-2021)**

6th Grade	September	October	November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe			Power of Innovation		Power of a Life Form				
<b>Topic</b>	The Nature of Science	Weather Weathering and Erosion	Human Impact	Engineering and Design/Simple Machines Overview (continued into January if need be)	States of Matter and Thermal Energy	Cells	Human Body Systems		Heredity and Genetics	Amazing Race of Science
<b>Essential Questions</b>	How does the process of scientific investigation contribute to what we know about the world?	What regulates weather and climate? How do the materials in and on the Earth's crust change over time?	How do the Earth's surface processes and human activities affect each other?	How do engineers solve problems?	How is energy transferred between objects or systems?	How do the structures of organisms enable life's functions?	How do organisms grow and develop?		How do living organisms pass traits from one generation to the next?	
<b>Topic Description</b>	Students will learn the steps of the scientific method, how to write lab procedures, and how to identify independent, dependent and control variables.	Students will learn about the difference between weather and climate. We will also discover different types of clouds, review the water cycle and learn about erosion and weathering concepts.	Students will learn about how pollution affects our environment, the impact of global warming and how we can protect our planet.	Students will review the six types of simple machines and learn the steps of the Engineering and Design Process. They will also be introduced to potential (non moving) and kinetic (moving) energy.	Students will review the phases of matter: solids, liquids and gases while discovering how heat plays a role in each of the phases.	Students will be introduced to cell structure including multicellular (many cells) and unicellular (one cell) organisms. They will also learn about organelles (structures found within the cells) and what roles they play in overall structure of a plant and an animal cell.	Students will learn about the following body systems: Skeletal, muscular, nervous, digestion, circulatory and respiratory.		Students will learn about Mendelian (single traits) and Non-Mendelian (multiple traits) and how we inherit traits from our parents. Students will also learn how to make punnett squares, which will give us possible outcomes for offspring.	Review of science topics learned throughout the school year
<b>NGSS AND CCSS ALIGNMENT</b>	NGSS: MS-ETS-1-1, MS-ETS-1-3, CCSS: RST.6-8.1, RST.6-8.9, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9	NGSS: MS-ESS2-4, MS-ESS2-5, MS-ESS3-5 CCSS: RST.6-8.1, RST.6-8.9, WHST.6-8.8, 6.NS.C.5	NGSS: MS-ESS3-3 CCSS: WHST.6-8.7, WHST.6-8.8, 6.RP.A.1, 6.EE.B.6	NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4	NGSS: MS-PS3-3, MS-PS3-4, MS-PS3-5 CCSS: RST.6-8.1, RST.6-8.3, WHST.6-8.1, WHST.6-8.7, 6.RP.A.1	NGSS: MS-LS1-1, MS-LS1-2, CCSS: RST.6-8.1, RI.6.8, WHST.6-8.1, WHST.6-8.7, WHST.6-8.8, 6.EE.C.9	NGSS: MS-LS1-3, MS-LS1-8 CCSS: RST.6-8.1, RI.6.8, WHST.6-8.1, WHST.6-8.7, WHST.6-8.8, 6.EE.C.9		MS-LS3-2, MS-LS1-5 CCSS: RST.6-8.1, RST.6-8.2, RST.6-8.4, RST.6-8.7, RI.6.8, WHST.6-8.1, WHST.6-8.2, WHST.6-8.9, 6.SP.A.2, 6.SP.B.4, 6.SP.B.5	NGSS: MS-ETS-1-1, MS-ETS-1-3,

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Theme: Power of Change (2020-2021)**

7th Grade	September	October	November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe				Power of Innovation		Power of a Life Form			
<b>Topic</b>	Nature of Science	Tectonic Plates, Rocks and Minerals		Human Impact	Atoms/Chemistry		Photosynthesis and Cellular Respiration	Ecology		STEM Sports: Science Review
<b>Essential Questions</b>	How do scientists design and conduct scientific investigations?	How do the materials in and on the Earth's crust change over time? How does the movement of tectonic plates impact the surface of Earth?		What are renewable and nonrenewable resources and how can humans use them?	How do scientists build upon previous theories? How is matter held together?		How does structure relate to function in living systems from the cellular to the organismic level?	How does a system of living and non-living things operate to meet the needs of the organisms in an ecosystem?		
<b>Topic Description</b>	Students will review the steps of the scientific method and take a deeper dive into scientific inquiry. They will also review variables (parts that are changed or measured in an experiment) as well as work on data graphing and lab report procedures.	Students will learn about the concept of how the continents have drifted to where they are now over many years. They will discover the meaning of plate tectonics, sea floor spreading, and we will take a look at volcanoes and earthquakes in relation to these concepts. We will also discuss the rock cycle (sedimentary, igneous, and metamorphic) as well as the basics about fossils, minerals, and soil composition.		Students will learn the difference between renewable and non renewable energy sources with a focus on solar power.	Students will be exposed to the history of the atom, atomic structure (protons, neutrons and electrons) and the periodic table of elements. During Chemistry, students will learn the differences between an element, mixture and a compound, what is a chemical reaction and how to write simple chemical equations.		Students will learn about the process of photosynthesis and cellular respiration (breathing) in plants.	Students will learn about energy flow through the process of food chains, food webs, and food pyramids. We will discuss the roles and relationships of predators and prey in ecological systems as well as the carbon and nitrogen cycle. Students will learn about biodiversity (different forms of life that make up an ecosystem) as well as take a tour of the different world biomes.		Review of Science Engineering Concepts from the school year
<b>NGSS AND CCSS ALIGNMENT</b>	NGSS: MS-ETS-1-1, MS-ETS-1-3,  CCSS: RST.6-8.1, RST.6-8.9, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9	NGSS: MS-ESS2-1, MS-ESS2-2, MS-ESS2-3 CCSS: RST.6-8.1, RST.6-8.7, RST.6-8.9, WHST.6-8.1, WHST.6-8.2, 7.EE.B.4		MS-ESS3-1, MS-ESS3-2 CCSS: RST.6-8.1, RST.6-8.7, RST.6-8.9, WHST.6-8.1, WHST.6-8.2, 7.EE.B.4 MS-PS1-3 CCSS: RST.6-8.1, RST.6-8.7, RST.6-8.9, WHST.6-8.1, WHST.6-8.2, 7.EE.B.4	NGSS: MS-PS1-2, MS-PS1-4, MS-PS1-5, MS-PS1-6  CCSS: RST.6-8.1, RST.6-8.3, RST.6-8.7, WHST.6-8.7  NGSS: MS-PS1-1 CCSS: RST.6-8.1, RST.6-8.7, WHST.6-8.8		NGSS: MS-LS1-6, MS-LS1-7 CCSS: RST.6-8.1, RST.6-8.2, WHST.6-8.2, WHST.6-8.9	NGSS: MS-LS2-1, MS-LS2-2, MS-LS2-3, MS-LS2-4, MS-LS2-5  CCSS: RST.6-8.1, RST.6-8.7, RST.6-8.8, WHST.6-8.1, WHST.6-8.2, WHST.6-8.9"		NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4

**Curriculum Map  
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8th Grade	September	October/November	December	January	February	March	April	April/May	June
<b>Component</b>	Power of the Universe			Power of Innovation			Power of a Life Form		
<b>Topic</b>	Nature of Science	Astronomy Earth's History	Human Impact	Coaster Physics	Sound Waves and Light Optics	Electricity and Magnetism	Genetics Review OSAS PREP	Evolution, Natural Selection, and Adaptation	Amazing Race
<b>Essential Questions</b>	What are the key components of all scientific investigations?	What is the universe and what is Earth's place in it? How do people reconstruct and date events in Earth's planetary history?	How do humans change the planet ?	How are forces related to energy?	What are the characteristic properties and behaviors of waves?	How is magnetism and electricity related to one another?	How does DNA control growth and function of cells?	How do people figure out that the Earth and life on Earth have changed through time? How do organisms change over time in response to changes in the environment?	
<b>Topic Description</b>	Students will review the scientific method, look at how to design their own lab as well as look closely at the structure of Claim, Evidence and Response in providing scientific documentation.	Students will discover components of our solar system including planets, lunar phases and eclipses, stars, constellations, and how the seasons work in a scientific world. We will also study geologic time periods in relation to the history of our Earth.	Students will study changes in our climate and how these changes impact species and population growth in our ecosystems. We will also discuss ways to continue to protect our environment.	Students will study Newton's three laws looking at energy transfer, types of forces in our world and how they relate to non moving and moving energy.	Students will discuss different types of sound waves, properties of sound waves and look at the electromagnetic spectrum (light waves)	Students will learn about magnetic and electric forces. Students will understand the difference between parallel and simple circuits as well as how electrons behave in those systems.	Genetics review OSAS Test Prep (state testing preparation)	Students will explore the theory of natural selection, learn about Charles Darwin and discuss evidence for evolution. We will also talk about how organisms have adapted to their environment over a period of time.	Review of science topics learned throughout the school year
<b>NGSS AND CCSS ALIGNMENT</b>	NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4	NGSS: MS-ESS1-1, MS-ESS1-2, MS-ESS1-3, MS-ESS1-4, MS-PS2-4 CCSS: SL.8.5, RST.6-8.1, RST.6-8.7	NGSS: MS-ESS3-2, MS-ESS3-4, MS-ESS3-5 CCSS: RST.6-8.1, WHST.6-8.2, WHST.6-8.1, WHST.6-8.9	NGSS: MS-PS2-1, MS-PS2-2, MS-PS3-1, MS-PS3-2, MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4 CCSS: RST.6-8.1, RST.6-8.3, WHST.6-8.1, WHST.6-8.7	NGSS: MS-PS4-1, MS-PS4-2, MS-PS4-3 CCSS: RST.6-8.1, RST.6-8.3, WHST.6-8.1, WHST.6-8.7	NGSS: MS-PS2-3, MS-PS2-4, MS-PS2-5 CCSS: RST.6-8.1, RST.6-8.3, WHST.6-8.1, WHST.6-8.7	NGSS: MS-LS3-1, MS-LS4-5 CCSS: RST.6-8.1, RST.6-8.9, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9	NGSS: MS-LS4-1, MS-LS4-2, MS-LS4-3, MS-LS-4-4, MS-LS4-5, MS-LS4-6 CCSS: RST.6-8.1, RST.6-8.7, RST.6-8.9, WHST.6-8.2, WHST.6-8.8, WHST.6-8.9, SL.8.1, SL.8.4,	NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4