

Curriculum Map
Theme: Power of One

6th Grade	September	October	November	December	January	February	March	April	May	June
Component	Power of the Universe			Power of Innovation		Power of a Life Form				
Topic	The Nature of Science/Mapping Earth	Weather	Human Impact	Engineering and Design Month!	Thermal Energy	Cells	Human Anatomy and Functions	Plants	Heredity and Genetics	Amazing Race of Science
Topic Description	Scientific Method, variables, how to write a lab report, various science skills practice	Describing Weather, Clouds, Pressure Systems, Mapping Weather, Weather and Climate, Hurricanes	Intro to Human Impact, Pollution, Global Warming, Environmental Issues, Protecting Environment	The Engineering and Design Process	Energy & Thermal Energy (What is Heat?, Heat Transfer, Temperature, Phase Change, Temperature Change)	Classes and Types Multicellular Cell Membrane	Skin Bones Muscles Nervous Circulatory and Respiration Digestion Organ System Interactions	Plant needs and anatomy trees reproduction adaptations physiology	Introduction Mendelian Genetics	Review of science topics learned throughout the school year
NGSS AND CCSS ALIGNMENT	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-ESS2-6, 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	NGSS: MS-LS1-4, 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	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,
Core Knowledge Correlation		Oceans- trenches, surface, subsurface land features Science Bio: Alfred Wegener, Gabriel Fahrenheit			Energy, Heat and Energy Transfer Science Bio: Marie Curie, Lewis Latimer	Science Bio: Robert Hooke	lymphatic, circulatory, immune systems; bacterial and viral diseases		Cell Division and Genetics- Greogor Mendel, double helix, mitosis and meiosis, genetic engineering, "Rosalind Franklin, Watson and Crick "	
Essential Questions	How does the process of scientific investigation contribute to what we know about the world?	What regulates weather and climate?	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 organisms obtain and use the matter and energy they need to live and grow?	How do living organisms pass traits from one generation to the next?	

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7th Grade	September	October	November	December	January	February	March	April	May	June
Component	Power of the Universe			Power of Innovation			Power of a Life Form			
Topic	Nature of Science	Earth's History: Tectonic Plates, Weathering and Erosion, Rocks and Minerals, Human Impact		Atoms	Chemistry		Photosynthesis and Cellular Respiration	Ecology		STEM Sports: Science Review
Topic Description	Nature of Science	Plate Tectonics, Seafloor Spreading, Continental Drift, Volcanoes and Earthquakes, Mapping Earthquake and Volcano Activity Weathering, Erosion, Deposition (NOT IN 18-19 School Year) Soil, Minerals, Rocks and Fossil basics (just fossil types found in sedimentary rocks- dinos covered in 8th Earth Science) Natural Resources and Synthetic Products, Resource Distribution		History of the Atom Atoms Structure Periodic Table of Elements	Elements, Mixtures, Compounds Chemical Bonding Chemical Reactions Chem Equations Types of Reactions		Photosynthesis and Cellular Respiration	Review of ecology definition Feeding and Energy Flow Ecological Roles and Relationships Nutrient Cycling Biomes and Aquatic Ecosystems Environmental Changes Biodiversity		Review of Science Engineering Concepts from the school year
Core Knowledge Correlation	Plate Tectonics-surface, layers, crust movements, earthquakes, volcanoes			Atomic Structure-Theories of Matter, Start of modern chemistry Science Bio: Demetri Mendeleev, Neils Bohr	Chemical Bonds-Metallic, Covalent, Ionic, Oxidation, Reductions, Acids, Bases, Catalyst Science Bio: Lavoisier, Meitner		Chemistry and Food Respiration-Photosynthesis, animal respiration Bio: Robert Hooke			
Essential Questions	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 on previous work when developing theories?	What role does chemistry play in the world around us?		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?		

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8th Grade	September	October/November	December	January	February	March	April	May	June
Component	Power of the Universe			Power of Innovation			Power of a Life Form		
Topic	Structure of the Universe		Human Impact	Coaster Physics	Sound Waves and Light Optics	Electricity and Magnetism	Genetics	Evolution	Summer Science STEM Olympics
Topic Description	(Seasons, Lunar Phases and Eclipses, Tidal Cycles) (Structure, Solar System, Stars) (Geologic Time Periods, Fossils, Rock Dating, History of Earth's Climate)		Population Growth Impact on Species Protecting Environment	Start with Energy: Energy Transfer and Transformation Kinetic and Potential Collisions Forces and Motion: Types of Forces Motion Newtonian Physics	types of waves wave properties wave behaviors sound EM Spectrum Communication	magnetic and electric force circuits electromagnets	Mendelian Review Modern Genetics	Theory of Natural Selection Evidence of Evolution Artificial Selection	Review of science topics learned throughout the school year
Core Knowledge Correlation	Gravity, Stars, Galaxies Science Bio: Isaac Newton, Caroline Herschel			Forces, Motion, Density, Buoyancy, Work, Power, Types of Energy Science Bio: Albert Einstein		Electricity-flow, charges, static Earth's magnetism Science Bio: Charles Steinmet, James Maxwell, Mary Sommerville Electromagnetic Radiation Properties of waves- speed, frequency, amplitude Science bio: Dorothy Hodgkin		Evolution- Natural Selection, Extinction, Speciation Science Bio: Charles Darwin	
Essential Questions	How do the motions of the Earth, Moon and Sun affect us? 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?	