

**6th Grade Curriculum Map**

6th Grade	September	October	November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe (Universe Changes)			Power of Innovation (System Changes)		Power of a Life Form (Individual Changes)			Interconnectedness of Changes	
<b>Topic</b>	The Nature of Science/Mapping Earth	Weather Weathering and Erosion	Human Impact: Sustainability	Engineering and Design Month!	Thermal Energy States of Matter	Cells	Human Body Systems	Plants	Science Review	
<b>Topic Description</b>	Scientific Method, variables, how to write a lab report, various science skills practice  Introduction to CER (Claim, Evidence, Reasoning)	Describing Weather, Clouds, Pressure Systems, Mapping Weather, Weather and Climate, Hurricanes  Weathering and Erosion	Intro to Human Impact, Pollution, Global Warming, Environmental Issues, Protecting Environment	The Engineering and Design Process  Rube Goldberg Machines (In class project)	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	Plant needs and anatomy  trees  reproduction  adaptations  physiology	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-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-ETS-1-1, 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	NGSS: MS-ETS-1-1, MS-ETS-1-3, MS-ETS-1-3, MS-ETS-1-3	
<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 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?		
<b>Phenomenon Anticipatory Set</b>		How much water on the planet demonstration and Extreme weather video	Discuss: The concept of things breaking down- Have you ever been in a car that broke down? Have you ever had a break down? <del>The world</del>		Ball and Circle apparatus demonstration	Can you guess what this is? Extreme microscope magnification game Students will look at a series of upclose magnifications and try	The human body can heal itself phenomenon		Bees phenomenon	Amazing Race Music and Intro
<b>Cross-Curriculum Integration/Field Trips</b>	Math- Graphing, calculating data Writing- lab reports Reading- Scientific Method problems and analogies Art- Foldables and graphic organizers demonstrating	Math- Weather patterns, temperature C-F Writing- Weather report Reading- different types of weather	Math: Density Calculations Writing: Labs Art: Foldables Technology: Brain Pop weathering and erosion	Math- calculations for engineered designs Reading-The Design Process Writing- How-tos, Informative Technology: Online	Math- calculations, graphing Writing- lab writing	Math- calculations, graphing Writing- lab writing Reading- Cells, Scientists, Art- Edible Cells, Foam Cells				Math Writing
<b>Assessment Strategies Formative &amp; Summative</b>	Formative- Exit Tickets  Summative- Steps of Scientific Method Quiz Lab writing quiz  Authentic- scientist poster	Formative-Exit Tickets  Summative-Water Cycle and weather vocab quiz	Formative-Exit Tickets  Summative-Vocab Quiz  Authentic- Weathering Tic Tac Choice Board (TpT)	Formative- Exit Tickets  Authentic- Create your Own using the engineering process	Formative- Exit Tickets  Summative- Quiz	Formative- Exit Tickets  Summative- Cell Quizzes  Authentic- 3D Cell	Formative- Exit Tickets  Summative- Quizzes			
<b>Primary Sources</b>	"First Week of School" Better Lesson Unit	Better Lesson "Weather" unit	Science Matters Unit CPO Stream Tables	Create a Marshmallow Catapult STEM  Rube Goldberg Design TpT		TpT Cells Unit	TpT Human Body Activities			TpT resources

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<b>Component</b>	Power of the Universe (Universe Changes)			Power of Innovation (System Changes)		Power of a Life Form (Individual Changes)			Interconnectedness of Changes	
<b>Topic</b>	The Nature of Science/Mapping Earth	Weather	Human Impact	Engineering and Design Month!	Thermal Energy	Cells	Human Anatomy and Functions		Plants	Amazing Race of Science
<b>Topic Description</b>	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 <del>Circulatory and Respiration</del>		Plant needs and anatomy trees reproduction adaptations	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-ESS2-6, MS-ESS3-5 CCSS: RST.6-8.1, RST.6-8.9, WHST.6-8.8, WHST.6-8.9	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.6-8.4, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9	NGSS: MS-ETS-1-1, MS-ETS-1-3, WHST.6-8.7, WHST.6-8.8, WHST.6-8.9
<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 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?	

7th Grade Curriculum Map										
7th Grade	September	October	November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe (Universe Changes)			Power of Innovation (System Changes)		Power of a Life Form (Individual Changes)			Interconnectedness of Changes	
<b>Topic</b>	Nature of Science	Earth's Processes: Atmosphere, Plate Tectonics, Sea Floor Spreading, Types of Fossils	Human Impact	Atoms	Chemistry		Matter Cycling and Photosynthesis	Ecology		STEM Sports: Science Review
<b>Topic Description</b>	Nature of Science	Plate Tectonics, Seafloor Spreading, Continental Drift  Types of Fossils	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		Review of Science Engineering Concepts from the school year
<b>NGSS AND CCSS ALIGNMENT</b>	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-PS1-1  CCSS: RST.6-8.1, RST.6-8.7, WHST.6-8.8	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-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"			
<b>Essential Questions</b>	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?		
<b>Phenomenon</b>	Saharan Air Layer Phenomenon			crystalized salt gardens Groups will complete the process of growing a crystal salt	Cycling of Matter phenomenon  You Can Light a Match With Just a Rubber Band phenomenon			Star Pearlfish Living in a Sea Cucumber's Bum phenomenon		
<b>Anticipatory Set</b>										
<b>Cross Curriculum Integration/Field Trips</b>	Writing- lab reports, summaries, current events Art- foldables, graphic organizers, posters, comics Technology- powerpoint presentations			Math- Graphing, calculating data Writing- lab reports, current events Reading-articles Art- Foldables and graphic organizers	Writing- lab reports, summaries, current events Art- foldables, graphic organizers, posters, comics Technology- powerpoint presentations		Math- Graphing, calculating data Writing- lab reports, current events Art- Foldables and graphic organizers	Eco Foot Print Presentation by Metro Recycling		
<b>Assessment Strategies Formative &amp; Summative</b>	Summative- Quizzes Formative- Exit Tickets			Formative- Exit Tickets Authentic-Atom Building	Summative- Vocab. Quizzes  Formative-Exit Tickets		Formative- Exit Tickets  Summative- Quiz  Authentic- Plant/Animal Cell	Summative- Vocab. Quizzes  Formative-Exit Tickets  Authentic- Ecosystem Quadrama Project		
<b>Primary Sources</b>	CPO Science DSM Science TpT resources			CPO Science  Better Lesson	"Chemical Properties and Reactions" Better Lesson Unit  Better Lesson		TpT Dissection of a Pickle DSM Plants and	Better Lesson, "Interdependence of Ecosystems" Unit		
<b>NOTES</b>	7th grade covered some of plate tectonics in 6th grade already (just the different types of plate boundaries so maybe just a review on that part)			All information for both units is located in the "Chemistry Binder"						

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<b>Component</b>	Power of the Universe (Universe Changes)			Power of Innovation (System Changes)		Power of a Life Form (Individual Changes)				Interconnectedness of Changes
<b>Topic</b>	Nature of Science	Earth's Systems: Atmosphere, Hydrosphere (review), Geosphere (review and extension of plate tectonics, rocks and fossils)		Atoms	Chemistry		Photosynthesis and Cellular Respiration	Ecology		Science Review
<b>Topic Description</b>	Review of the scientific method, lab procedures and writing scientifically  Learning CER (Claim, Evidence, Reasoning)	Plate Tectonics, Seafloor Spreading, Continental Drift  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  Atomic 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		Review of Science Engineering Concepts from the school year
<b>Essential Questions</b>	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?		

**8th Grade Curriculum Map**

8th Grade	September	October/November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe (Universe Changes)			Power of Innovation (System Changes)			Power of a Life Form (Individual Changes)		Interconnectedness of Changes
<b>Topic</b>	Start with a week or two of scientific method (use docs sent via email, there isn't a binder for 8th grade) <b>Unit 1: Astronomy</b> (Seasons, Lunar Phases and Eclipses, Tidal Cycles) (Structure, Solar System, Stars) (Geologic Time Periods, Fossils, Rock Dating, History of Earth's Climate)		Unit 3: Human Impact	Unit 4: Roller Coaster Physics (may extend into February)	Unit 5: Sound Waves and Light Optics	Unit 6: Electricity and Magnetism	Unit 7: Genetics and Heredity	Unit 8: Evolution, Natural Selection, and Adaptation	Summer Science STEM Olympics
<b>Topic Description</b>			Population Growth Impact on Species Protecting Environment	<b>Start with Energy:</b> Energy Transfer and Transformation Kinetic and Potential	types of waves wave properties wave behaviors	magnetic and electric force circuits	Mendelian Review Modern Genetics	Theory of Natural Selection Evidence of Evolution Artificial Selection	Review of science topics learned throughout the school year
<b>NGSS AND CCSS ALIGNMENT</b>	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.6-8.7	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	NGSS: MS-LS4-1, MS-LS4-2, MS-LS4-3, MS-LS4-4, 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	Review of standards
<b>Essential Questions</b>	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?	
<b>Phenomenon Anticipatory</b>	"Satellite Blocks our Star" phenomenon Dung Beetles Use Snapshots of Milky Way as GPS phenomenon		Greetings, crew. As you know, our space mission was to find a place that was habitable to humans and set up a	Roller Coasters Phenomenon	Siren phenomena Helium Changes Our Voice	Shark Tracking	photo of variation of eyes between species.	Large population of drought tolerant plants in a given environment Bird of Paradise Dance phenomenon	
<b>Cross Curriculum Integration/Field Trips</b>	Math- solar system distance Writing- Constellation Myths, Adopt a constellation Art- Create models of solar system components- lunar phases, ems, and seasons Technology- Celestial Bodies ppt		Writing- Issues research Technology- Local Environmental Issues ppt Guest Speaker- Conscious Consumption Presentation	Math-speed, distance calculations Art- sketching roller coaster models, electromagnetic spectrums Technology- online Roller		Math- voltage calculations Art- circuit foldables Writing- Lab writing, reflections	Math- Graphing, calculating data Presentations Art- Foldables and graphic organizers	Math- Graphing, calculating data Writing- lab reports Art- Foldables and graphic organizers	
<b>Assessment Strategies Formative &amp; Summative</b>	Formative-Exit Tickets Summative-Vocab Quiz Authentic-Constellation Power Point Presentations		Formative-Exit Tickets Authentic-PSA presentations	Formative-Exit Tickets Summative-Quizzes/Test Authentic- Roller Coaster Building Contest		Formative-Exit Tickets Summative- Quizzes/Test Authentic- Cards	Formative-Exit Tickets Summative- Genetic Mutations Quiz Genetic Mutations Electronic Brochures	Formative - Exit Tickets Summative- Quizzes Authentic- Building Beasts Evolutionary Activity	
<b>Primary Sources</b>	CPO Science TpT Resources Starquest		Better Lesson Unit- Design A Resilient, Self-sustaining community	Paper roller coasting building materials CPO Science Labs			CPO Science TpT resources DSM Science	Better Lesson "Geologic Time" Unit, "Evolution" Unit Core Knowledge Activities	
<b>NOTES</b>									Take out absolute/radioactive dating information and place in first unit

**8th Grade Curriculum Map**

8th Grade	September	October/November	December	January	February	March	April	May	June
<b>Component</b>	Power of the Universe (Universe Changes)		Power of Innovation (System Changes)		Power of a Life Form (Individual Changes)		Interconnectedness of Changes		
<b>Topic</b>	Structure of the Universe and Earth's History	Human Impact	Roller Coaster Physics	Sound Waves and Light Optics	Electricity and Magnetism	Genetics and Heredity	Evolution and Adaptations	End of Year	
<b>Topic Description</b>	(Seasons, Lunar Phases and Eclipses, Tidal Cycles) (Structure, Solar System, Stars) (Geologic Time Periods, Fossils, Rock Dating, History of Earth's	Population Growth Impact on Species Protecting Environment	<b>Start with Energy:</b> Energy Transfer and Transformation Kinetic and Potential	types of waves wave properties wave behaviors	magnetic and electric force circuits	Mendelian Review Modern Genetics	Theory of Natural Selection Evidence of Evolution Artificial Selection	Review of science topics learned throughout the school year	
<b>Essential Questions</b>	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	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?		