	September	October	November	December	January	February	March	April	May	June
	Trimester 1				Trimester 2			Trimester 3		
	Diversity of Life				Human Systems Interactions			Weather and Water		
	"Change Through Life Cycles"				"Change in Systems"			"Change in Weather"		
6th Grade	"Change Through Interaction"				Variables and Design					
					"Change Through Innovation"					
	Diversity of Life			**Human Systems Interactions**			**Weather and Water**			
	Investigation 1: What is Life?			**Investigation 1: Systems Connections**			**Investigation 1: What is Weather?**			
	Part 1: Living or Nonliving - How do you know if something is living?			Part 1: Human Body Structural Levels - What is a human body made of?			Part 1: Intro to the Weather - What is weather?			
	Part 2: Is Anything Alive in Here? - How do you know if something is living?			Part 2: Systems Research - How do human organ systems interact?			Part 2: The Air Around Us - What is air?			
							Part 3: Earth's Atmosphere - What is the atmosphere?			
	Investigation 2: The Microscope			**Investigation 2: Supporting Cells**						
	Part 1: Meet the Microscope - How do objects appear when they are viewed through a microscope?			Part 1: Food and Oxygen - How do cells in the human body get the resources they need?			**Investigation 3: Air Pressure and Wind**			
				Part 2: Aerobic Cellular Respiration - How does the energy in food become energy that cells can use?			Part 1: Air-Pressure Inquiry - How does pressure affect air?			
	Part 2: Field of View - How can we estimate the size of an object by looking at it through the microscope?						Part 2: Pressure Maps - What happens when to areas of air have different pressure?			
	Part 3: Microscopic Life - What evidence can we fins that brine shrimp are a living organism?			**Investigation 3: The Nervous System**			**Investigation 3: Convection**			
				Part 1: The Sense of Touch - How does the sense of touch work in humans?			Part 1: Density of Fluids - What is the relationship between layering of fluids and density?			
	Investigation 3: The Cell			Part 2: Sending a Message - How do messages travel to and from the brain?			Part 2: Convection in Water - How does heat affect density of fluids?			
	Part 1: Discovering Cells - What microscopic structures make up organisms such as elodea?			Part 3: Other Senses - How are the senses alike and how are they different?			Part 3: Convection in Air - How do gases flow in the atmosphere?			
				Part 4: learning and memory - How do humans learn and form memories?						
	Part 2: Paramecia - How are elodea and the paramecium alike, and how are they different?						**Investigation 4: Radiation**			
							Part 1: Latitude - How does the weather differ between locations?			
	Part 3: Microworlds - Is there life in the minihabitats? If so, where did it come from?			**Variables and Design**			Part 2: Solar Angle - How does the sun affect the temperature of locations on Earth?			
	Part 4: Human Cheek Tissue - What microscopic structures make up organic humans (you)?			**Investigation 1: Testing Variables**			Part 3: Heating Earth - What factors affect the surface temperature of Earth?			
				Part 1: Air Trolleys - How can we describe and measure motion in a system?						
	Investigation 4: Domains			Part 2: Controlled Experiment - What variables affect the operation of an air trolley?			**Investigation 5: Conduction**			
	Part 1: Comparing Living Things - What are the building blocks of cell structures?			Part 3: Design an Experiment - Student-generated question regarding air trolley.			Part 1: Fluid Conduction - How does energy move through materials?			
	Part 2: Bacteria - What evidence is there that bacteria is a living organism?						Part 2: Insulation - Student-generated question about energy transfer.			
	Part 3: Fungi - What evidence is there that fungi are living organisms?			**Investigation 2: Testing Designs**			Part 3: Home Design - How can we design a more efficient way to decrease energy transfer between a model home and the environment?			
	Part 4: Archaea: The Three Domains - What are the characteristics of archaea?			Part 1: Air-Trolley Design Challenge - How do engineers decide what to change in a design?						
				Part 2: Engineering Design Cycle - What are the steps taken to solve a problem in engineering?						
	Investigation 5: Plants: The Vascular System						**Investigation 6: Air Flow**			
	Part 1: What Happened to the Water? - Student-created question, e.g., 'What happened to the water?'			**Investigation 3: Real-World Problems**			Part 1: Atmospheric Heating - How does the atmosphere heat up?			
				Part 1: Define a Problem - How does understanding variables help us define a problem and design a solution?			Part 2: Local Winds - How does the energy from the Sun affect wind on Earth?			
	Part 2: Looking at Plant Structures - How does water travel through a plant?						Part 3: Global Winds - What affects the direction of global winds?			
	Part 3: Transpiration and Photosynthesis - How do plants use water?			Part 2: Future Tech - How does technology help engineers solve problems?						
							Investigation 7: Water in the Air			
	Investigation 6: Lima Bean Dissection			Aditional Engineering Projects if there's time.			Part 1: Is Water Really There? - Student-generated question about water vapor.			
	Part 1: How do the structural adaptations of seeds help them survive?						Part 2: Phase Change and Energy Transfer - How does energy transfer when water changes phases?			
	Part 2: Environmental and Genetic Factors - How do environmental factors affect the germination and early growth of different food crops?						Part 3: Clouds and Precipitation - What causes clouds to form?			
	Part 3: Flowering-Plant Reproduction - What is the role of a flower?									
	Part 4: Flowers and Pollinators - What adaptations do flowering plants have to accomplish pollination?						**Investigation 8: The Water Planet**			
							Part 1: Water-Cycle Simulation - What is the water cycle?			
							Part 2: Ocean Currents - What affects the direction that ocean water flows?			
	Investigation 7: Variation of Traits						Part 3: Ocean Climate - How does the ocean affect climate on land?			
	Part 1: Inheriting Traits - Ho do traits pass from parents to offspring?									
	Part 2: Modeling Heredity - How does sexual reproduction produce variation in offspring?						**Investigation 9: Climate Over Time**			
							Part 1: Climate Change - How have climates changed over time?			
	Investigation 8: Insects						Part 2: The Role of Carbon Dioxide - How do greenhouse gasses in the atmosphere affect Earth's temperature?			
	Part 1: Structure, Function, and Behavior - How do the structures and behaviors of the Madagascar hissing cockroach enable life's functions?						Part 3: Climate in the News - What are the effects of a slight rise in global temperature?			
	Part 2: Insect Systems - How is the insect transport system like plant and human transport systems and how is it different?						**Investigation 10: Meteorology**			
							Part 1: Weather Maps - What information can you get from a weather map?			
	Investigation 9: Diversity of Life						Part 2: Identify Key Ideas - What makes weather happen?			
	Part 1: Bioblitz - What kind of plant and animal life exists in our schoolyard?									
	Part 2: What is Life - How do you know if something is living?									
	Trimester 1				Trimester 2			Trimester 3		
	Chemical Interactions				Earth History			Populations and Ecosystems		
	"Chemical Changes"				"Changes in Landscapes"			"Changes in Population"		

7th Grade			
			"Changes in Ecosystems"
	Chemical Interactions	**Earth History**	**Populations and Ecosystems**
	Investigation 1: Substances	**Investigation 1: Earth is Rock**	**Investigation 1: Milkweed Bugs**
	Part 1: Mystery Mixture - How can we find out what the two substances are in the mystery mixture?	Part 1: What's the Story of This Place? - Which landforms occur at different locations on Earth?	Part 1: Introducing Milkweed Bugs - What does a population of milkweed bugs need to survive in a classroom?
		Part 2: Grand Canyon Rocks - Why do there appear to be stripes on the walls of the Grand Canyon?	
	Part 2: Mixing Substances - How can we find out what two substances are in the mystery mixture?	Part 3: Correlating Grand Canyon Rocks - Why do there appear to be stripes on the walls of the Grand Canyon?	Part 2: Milkweed-Bug Habitat - What needs to be considered when building a habitat for milkweed bugs?
			Part 3: Observing Milkweed Bug Habitats - How do milkweed bugs reproduce and grow?
	Investigation 2: Elements	**Investigation 2: Weathering and Erosion**	
	Part 1: Periodic Table - What is the periodic table if the elements?	Part 1: Stream Table - What happens to Earth materials when water flows over landforms?	**Investigation 2: Sorting out Life**
	Part 2: Elements in the World - What makes up all the substances on Earth?	Part 2: Weathering - How did weathering and erosion contribute to the formation of the Grand Canyon?	Part 1: Ecosystem Card Sort - What is the relationship between individuals, populations communities, and abiotic factors in an ecosystem?
		Part 3: Soils - How is soil related to rocks?	
	Investigation 3: Particles		Part 2: Video Population Study - How is the milkweed-bug-habitat study similar to and different from Jane Goodall's population study?
	Part 1: Capture the Gas - How can the gas produced in a chemical reaction be studied?	**Investigation 3: Deposition**	
	Part 2: Air is Matter - Is air matter? Does air have mass and take up space?	Part 1: Sandstone and Shale - What happens to sediments that get deposited in basins?	Part 3: Ecoscenarios - Student-generated question about ecosystems.
	Part 3: Air as Particles - What is the relationship between particles in matter?	Part 2: Limestone - How does limestone form?	
		Part 3: Interpreting Sedimentary Layers - What do sedimentary layers reveal about ancient environments?	**Investigation 3: Mono Lake**
	Investigation 4: Kinetic Energy		Part 1: A visit to Mono Lake - What are the different biotic and abiotic components of the Mono Lake ecosystem?
	Part 1: Gas Expansion/Contraction - What happens to particles in a sample of air when the air is heated or cooled?	**Investigation 4: Fossils and Past Environments**	
		Part 1: Fossils - How do fossils get in rocks?	Part 2: Mono Lake Food Web - How do the organisms at Mono Lake interact?
	Part 2: Liquid Expansion/Contraction - What happens to particles in a sample of air when the air is heated and cooled?	Part 2: A Long Time Ago - How old are fossils?	Part 3: Ecoscenario Food Webs - How do the organisms in your ecoscenario interact?
		Part 3: Index Fossils - When did the Grand Canyon Rocks form?	
	Part 3: Solid expansion/contraction - What happens to particles in a sample of solid when the solid is heated and cooled?		**Investigation 4: Minihabitats**
		Investigation 5: Igneous Rock	Part 1: The Physical Environment - What abiotic factors should be considered when setting up terrestrial and aquatic habitats?
		Part 1: Earth's Layers - How do igneous rocks form?	
	Investigation 5: Energy Transfer	Part 2: Salol Crystals - Student-generated question regarding crystals.	Part 2: Introducing Life - What interactions are likely for the organisms in the mini habitat?
	Part 1: Mixing Hot and Cold - If two equal volumes of hot and cold water are mixed, what will the final temperature be?	Part 3: Types of Igneous Rocks - What can crystal size tell us about where an igneous rock formed?	Part 3: Observing Minihabitats - What interactions and changes have taken place in the terariums and aquariums?
	Part 2: Particle collisions - How does the energy transfer from one substance to another?	**Investigation 6: Volcanoes and Earthquakes**	
	Part 3: Heat - How is heat measured?	Part 1: Mapping Volcanoes and Earthquakes - Where do volcanoes occur on Earth? Where do earthquakes occur on Earth?	**Investigation 5: Producers**
			Part 1: Growing Producers - What is the effect of light on producers?
	Investigation 6: Thermos Engineering	Part 2: Moving Continents - Why do volcanoes and earthquakes occur where they do?	Part 2: Biomass and Producers - How do producers grow and increase biomass?
	Part 1: Insulation - Student-generated question regarding energy transfer.	Part 3: Plate Tectonics - What causes plates to move?	Part 3: Ecoscenario Producers - What are the roles of specific producers in the ecosystem?
	Part 2: Thermos Design - What is the best thermos design?		Part 4: Energy Transfer From Food - How can we model and measure energy transfer from food?
		Investigation 7: Mountains and Metamorhpic Rocks	
	Investigation 7: Solutions	Part 1: Plate Models - What happens to Earth's crust during plate interactions?	
	Part 1: Dissolve and Melt - What is the difference between dissolving and melting?	Part 2: Metamorphic Rocks - How do metamorphic rocks form?	**Investigation 6: Following the Energy**
	Part 2: Solubility - Do all substances form solutions in water?		Part 1: Using Energy - What are the kinds of work you do that require energy?
		Investigation 8: Geoscenarios	Part 2: Food Chain Game - What is needed to sustain a food chain?
	Investigation 8: Phase Change	Part 1: Introduction to the Project - What do we need to know to tell the geologic story of a place?	Part 3: Trophic Levels - How do biomass and energy flow through an ecosystem?
	Part 1 : Melting Temperature - What happens at the particle level when a substance melts?	Part 2: Research and Writing - What do we need to know to tell the geographic story of a place?	Part 4: Decomposers - What happens to the energy stored in the biomass of an organism when it dies?
	Part 2: Adding Thermal Energy - What is the relationship between melting and freezing?	Part 3: Presentations - What do we need to know to tell the geographic story of a place?	
	Part 3: Freezing Water - How can you freeze water in the classoom?		
	Part 4: Changing Phase - What are all the ways that a substance can change phase?	**Investigation 9: What is Earth's Story?**	**Investigation 7: Population Size**
		Part 1: Revisit the Grand Canyon - What is the geologic story of the Grand Canyon?	Part 1: Reproductive Potential - What factors affect how many milkweed bugs could be in your habitat at the end of the year?
	Investigation 9: Reaction	Part 2: Review the Evidence - How do Earth materials cycle through constructive and destructive processes?	
	Part 1: Substance Models - How do atoms combine to make new substances?		Part 2: Limiting Factors - What limiting factors affect algae and brine shrimp populations at Mono Lake?
	Part 2: Limewater Reaction - What happens at the particle level during a chemical reaction?		
	Part 3: Baking Soda and Acid - What is the chemical reaction between hydrochloric acid and sodium bicarbonate?		Part 3: Population Dynamics - How does predicted population growth compare to actual population growth?
	Investigation 10: Limiting Factors		**Investigation 8 - Human Impact**
	Part 1: Citric Acid and Baking Soda - What is a limiting factor in a chemical reaction?		Part 1: Biodiversity - Why is biodiversity important in an ecosystem?
	Part 2: Identifying Key Ideas - What have I learned about chemical interactions?		Part 2: Invasive Species - What can happen when a species is introduced to an ecosystem?
			Part 3: Mono Lake Revisited - What impact have people had on Mono Lake?
			Investigation 9: Ecoscenarios
			Part 1: Human Involvement - How have humans affected your ecoscenario, and what efforts have humans made to lessen this impact?
			Part 2: Evaluating Solutions - How have humans affected your ecoscenario, and

			what efforts have humans made to lessen this impact?
			Part 3: Presentations - How have humans affected your ecoscenario, and what efforts have humans made to lessen this impact?
	Trimester 1	Trimester 2	Trimester 3
	Heredity and Adaptation	Planetary Science	Waves Continued
	"Changes in Genetics"	"Changes in planetary positions"	Gravity and Kinetic Energy
8th Grade	"Changes in Behavior"	Waves	"Changes in Acting Forces"
	Electromagnetic Force	"Changes in wavelength etc."	Roller Coaster Project
	"Changes in Charge"		
	Heredity and Adaptation	**Planetary Science**	**Waves Continued**
	Investigation 1: The History of Life	**Investigation 1: Earth as a System**	**Investigation 3: Light Waves**
	Part 1: The Fossil Record - What does the fossil record tell us about the history of life on Earth?	Part 1: School to Space - Where are you when you are in science class?	Part 1: Mirrors - What happens when light waves interact with matter?
		Part 2: Earth's Systems - Why is Earth Described as a System?	Part 2: Spectra - What do spectra reveal about light?
	Part 2: Transitions - What does the fossil record tell us about how life has changed over time?	Part 3 - Moon Watch - How does the moon change day by day?	Part 3: Color - Student-generated question, e.g. 'What makes objects appear as different colors?
			Part 4: Refraction - What happens to light waves at the interface between different media?
	Investigation 2: Heredity	**Investigation 2: Earth/Sun Relationship**	
	Part 1: Lines of Descent - How can a model help us understand the relationships among organsims?	Part 1: Day and Night - What causes day and night?	**Investigation 4: Communication Waves**
		Part 2: Summer Heat - Why is it hotter in summer?	Part 1: Optical Fibers - What are some design constraints in fiber-optic communications?
	Part 2: Inheriting Traits - What leads to variation in a population?	Part 3: Day Length - Why are there more hours of sunlight in the summer?	Part 2: Sending Sound - How is sound sent through radio waves?
	Part 3: Modeling Heredity - How can we model how genetic information passes from generation to generation?	**Investigation 3: Moon Study**	Part 3: Sending Images - How are images sent through radio waves?
	Part 4: Punnett Squares: How can we predict the distribution of traits in a future generation?	Part 1: A Close Look at the Moon - What is visible on the Moon?	
		Part 2: How Big/Far? - What does an Earth/Moon scale model look like?	**Gravity and Kinetic Energy**
			Investigation 1: Acceleration
	Investigation 3: Evolution	**Investigation 4: Phases of the Moon**	Part 1: Speed Tracks - What is speed?
	Part 1 - Adaptation - How do genetic mutations lead to variations in a population?	Part 1: Observed Patterns - What Moon-phase patterns can be observed?	Part 2: Acceleration Track - What is acceleration?
	Part 2 - Natural Selection - How do populations change over time?	Part 2: Moon-Phase Models - What causes Moon phases?	Part 3: Acceleration of Gravity - What is gravity?
	Part 3 - Genetic Technology - How are humans influencing inheritance?	Part 3: Moon-Phase Simulation - How do models help us understand phases of the moon?	
			Investigation 2: Force of gravity
		Investigation 5: Craters	Part 1: Mass and Weight - What is the relationship between mass and weight?
	Electromagnetic Force	Part 1: Moon Craters - Are moon craters the result of volcanoes or impacts?	Part 2: How Heavy? - What is gravity like on other planets compared to Earth?
	Investigation 1: What is Force?	Part 2: Target Earth - Will Earth experience a major impact in the future?	
	Part 1: Push and Pull - What makes things move?		**Investigation 3 - Energy and Collisions**
	Part 2: Friction - How does friction affect the force needed to move an object?		Part 1: Potential and Kinetic Energy - How is potential energy related to kinetic energy?
	Part 3: Forces in Action - How do multiple forces affect motion?	**Waves**	Part 2: Stop or Crash - How does the kinetic energy of an object change when its speed or mass changes?
		Investigation 1: Make Waves	
	Investigation 2: The Force of Magnetism	Part 1: Pulse Rate - What is frequency	Part 3: Marble Collisions - How do Newton's laws help us explain marble billiards?
	Part 1: Properties of Magnets - What happens when magnets interact?	Part 2: Spring Waves - What defines a wave?	
	Part 2: Magnetic Fields - How can we detect a magnetic field?		**Investigation 4: Collision Engineering**
	Part 3: Force over Distance - What factors affect the force of attraction between magnets?	**Investigation 2: Wave Energy**	Part 1: Helmet Design Challenge - Which Properties of physics can help us design protection from a collision?
		Part 1: Energy in Waves - What is the relationship between wave properties and wave energy?	
		Part 2: Bridge Collapse - How are engineering challenges solved?	Part 2: Big ideas - How can we explain the motion of objects?
	Investigation 3: Electromagnetism	Part 3: Energy in Sound Waves - What is the best way to insulate a recording studio from outside sounds?	
	Part 1: Building a circuit - What is required to complete an electric circuit?		**Paper Roller Coasters -** How can we use the principles of motion to create an exciting 'roller coaster' using paper?
	Part 2: Building an Electromagnet - How does an electromagnet work?		
	Part 3: Improving the Design - Student-generated-question, e.g. How does ____ affect the strength of an electromagnet?		