

Month	Major Topics	Phenomenon-Based Question	Science & Engineering Practices	Crosscutting Concepts
September	Scientific Investigation Measurement		<ul style="list-style-type: none"> • Planning and carrying out investigations • Collaboration • Analyzing and interpreting Data 	<ul style="list-style-type: none"> • Cause and effect • Systems and system Models • Structure and Function
October	Scientific Investigation	How can you investigate phenomena and discover the unknown?	<ul style="list-style-type: none"> • Developing and using models • Analyzing and interpreting data • Collaboration • Using math/computational thinking • Asking questions/defining problems 	<ul style="list-style-type: none"> • Scale, proportion and quantity • Systems and system models • Energy and Matter: Flow, cycles, conservation • Patterns • Stability and Change
	Forces Newton's 1 st Law Speed and Acceleration of Objects			
November	Forces Newton's Second Law Newton's 3 rd Law Friction Gravity Acceleration due to gravity	How do amusement parks work?	<ul style="list-style-type: none"> • Analyzing and Interpreting Data • Using math/computational thinking • Planning and carrying out investigations 	<ul style="list-style-type: none"> • Cause and effect • Scale, proportion and quantity • Patterns • Stability and Change
December	Energy Potential vs. Kinetic Energy	How is energy transferred	<ul style="list-style-type: none"> • Developing and Using models • Planning and carrying out investigations • collaboration • Constructing explanations and designing solutions 	<ul style="list-style-type: none"> • Cause and Effect • System and system models • Energy and matter: flow, cycles, conservation • Stability and Change

January	Energy Energy Conversions Energy Conservation Heat Transfer	and yet conserved in a baseball game?	<ul style="list-style-type: none"> Asking questions and defining problems Planning and carrying out investigations Analyzing and interpreting data Collaboration Constructing explanations and designing solutions 	<ul style="list-style-type: none"> Cause and Effect Energy and matter: flow, cycles, conservation Models
February	Intro to Chemistry How to use Periodic Table Atoms and Elements Atomic Structure Subatomic Particles Isotopes Organization of Periodic Table Molecules and Compounds	How does a fireworks display confirm the laws of conservation of mass and energy?	<ul style="list-style-type: none"> Asking questions and defining problems Planning and carrying out investigations Analyzing and interpreting data Using math/computational thinking 	<ul style="list-style-type: none"> Systems and system models Patterns Structure and Function Stability and Change
March	Chemical Reactions Chemical Equations Law of Conservation of Mass Ionic and Covalent Ions Bonding Balancing Equations States of Matter Phase Changes	How does a fireworks display confirm the laws of conservation of mass and energy?	<ul style="list-style-type: none"> Developing and using models Collaboration Constructing models and designing solution 	<ul style="list-style-type: none"> Patterns Cause and Effect Energy and Matter: Flow, cycles, conservation
April	Waves and EM Radiation Wave Properties		<ul style="list-style-type: none"> Developing and using models Planning and carrying out 	<ul style="list-style-type: none"> Systems and system models Energy and matter: flow, cycles, conservation

	Wave Interactions Refraction, Reflection and Diffraction Light Interactions	How can we use waves to transfer energy and information to Astronauts?	investigations <ul style="list-style-type: none"> Asking questions/defining problems 	<ul style="list-style-type: none"> Structure and function
May/ June	Electricity and Magnetism Magnetic fields Voltage, current and resistance Generators and motors		<ul style="list-style-type: none"> Planning and carrying out investigations Collaborations Developing and using models 	<ul style="list-style-type: none"> Cause and effect System and system models Structure and function