

<p>Theme/Unit: Unit 1 – Scientific Method and Lab Skills (5 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> Science is the knowledge obtained by observing the natural world in order to discover facts and to formulate laws and principles that can be verified or tested. Scientists conduct safe experiments by using the Scientific Method, controls and independent/dependent variables, making accurate measurements, and understanding safety protocols. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Reading Outcomes</p>	<p>Standards-Based Essential Skills to be Targeted Throughout the Unit</p> <ul style="list-style-type: none"> CCSS.ELA-Literacy.RST.6-8.1 CCSS.ELA-Literacy.RST.6-8.3 CCSS.ELA-Literacy.RST.6-8.4 CCSS.ELA-Literacy.RST.6-8.6 CCSS.ELA-Literacy.RST.6-8.7 CCSS.ELA-Literacy.RST.6-8.8 CCSS.ELA-Literacy.RST.6-8.10 	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p> <p>After instruction, students will be able to:</p> <ul style="list-style-type: none"> Describe the three methods of investigation Identify benefits of science in the world around you Explain why scientists use scientific methods Determine the appropriate design of a controlled experiment Use information in tables and graphs to analyze experimental results Explain how scientific knowledge can change Give examples of three types of models Compare the ways scientists use hypotheses, theories, and laws Collect, record, and analyze information by using various tools Calculate area and density Identify lab safety symbols and demonstrate safe practices during lab investigations 	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: Hypothesis WKST, Observation Lab, Apple/Candle Demo, Hypotheses and Variables WKST, Scientific Method Study Guide, Scientific Method Quiz, Paper Towel Lab, Models Packet, Measuring Tools WKST, Accurate Length Lab, Measuring Length Lab, Conversions WKST, Metric Mania Packet, Measuring Mass Lab, Volume Lab, Accurate Mass Lab, Volume at Home, Density Lab, Density Packet, Density WKST, Liquid Density Lab, Unit 1 Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> Unit 1 Test 		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Writing Outcomes</p>	<ul style="list-style-type: none"> CCSS.ELA-Literacy.WHST.6-8.1.b CCSS.ELA-Literacy.WHST.6-8.2 CCSS.ELA-Literacy.WHST.6-8.4 CCSS.ELA-Literacy.WHST.6-8.7 	<p>Literature Based Writing:</p> <p>Informational Writing:</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Literature</p>
<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> What is Science? Scientific Models Tools and Measurement <p>Review:</p> <ul style="list-style-type: none"> Scientific Method Study Guide Unit 1 Review Sheet <p>Websites:</p> <ul style="list-style-type: none"> Brain Pop NSTA 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Language/Listening and Speaking</p>				<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Focus Vocabulary</p>
<p>Tier 3 – Content Vocabulary: Science, scientific methods, hypothesis, observation, inference, controlled experiment, independent variable, dependent variable, control, model, theory, law, meter, area, mass, volume, temperature, density</p>					

<p>Theme/Unit: Unit 2 – Matter (6-7 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> Matter is anything that has mass and takes up space and it can be changed by physical and chemical means. Matter comes in three forms: solid, liquid, and gas, and can physically change into any of the other states. The states of matter also exist as elements, compounds, mixtures, and solutions. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Reading Outcomes</p>	<p>Standards-Based Essential Skills to be Targeted Throughout the Unit</p> <ul style="list-style-type: none"> CCSS.ELA-Literacy.RST.6-8.1 CCSS.ELA-Literacy.RST.6-8.3 CCSS.ELA-Literacy.RST.6-8.4 CCSS.ELA-Literacy.RST.6-8.7 CCSS.ELA-Literacy.RST.6-8.10 	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p> <p>After instruction, students will be able to:</p> <ul style="list-style-type: none"> Identify the properties to describe matter Describe what makes up matter Describe the properties of a mixture Explain what a physical and chemical changes are Describe how energy changes when matter changes Describe the motions of particles in a solid, liquid, and a gas Explain what happens to a substance during changes between solid and liquid, liquid and gas, and solid and gas Explain how pressure, temperature, and volume of a gas are related 	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: Describing Matter WKST; Classifying Matter WKST; Measuring Matter WKST; Separating Mixtures Lab; Mystery Mixture Lab; Elements, Compounds, and Mixtures Quiz; Physical and Chemical Changes Lab; Changes in Matter WKST; Changes in Matter Quiz; States of Matter WKST; Solid, Liquid, Gas Packet; Why Does Matter, Matter Packet; Changes of State WKST; Changes in State Lab; States of Matter Quiz; Gas Behavior WKST; Gas Behavior Packet; Matter Unit Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> Unit 2 Test 		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Writing Outcomes</p>	<ul style="list-style-type: none"> CCSS.ELA-Literacy.WHST.6-8.1.b CCSS.ELA-Literacy.WHST.6-8.2 CCSS.ELA-Literacy.WHST.6-8.4 	<p><u>Literature Based Writing:</u></p> <p><u>Informational Writing:</u></p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Literature</p>
<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> Describing Matter Classifying Matter Measuring Matter Changing Matter States of Matter Changes of State Gas Behavior <p>Review:</p> <ul style="list-style-type: none"> Matter Unit Review Sheet <p>Websites:</p> <ul style="list-style-type: none"> Brain Pop YouTube 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Language/Listening and Speaking</p>				<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Focus Vocabulary</p>
<p><u>Tier 3 – Content Vocabulary:</u> Matter, chemistry, substance, physical property, chemical property, element, atom, chemical bond, molecule, compound, chemical formula, mixture, physical change, chemical change, law of conservation of mass, temperature, thermal energy, endothermic change, exothermic change, chemical energy</p>					

<p>Theme/Unit: Unit 3 – Chemistry (6 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> • Atoms are the smallest unit of matter that make up everything the in universe. • Elements, which are arranged on the Periodic Table, react with on another through different type of bonds by sharing/losing electrons to create compounds. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Reading Outcomes</p>	<p>Standards-Based Essential Skills to be Targeted</p> <ul style="list-style-type: none"> • CCSS.ELA-Literacy.RST.6-8.1 • CCSS.ELA-Literacy.RST.6-8.2 • CCSS.ELA-Literacy.RST.6-8.4 • CCSS.ELA-Literacy.RST.6-8.7 • CCSS.ELA-Literacy.RST.6-8.10 	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p> <p>After the lessons, students will be able to:</p> <ul style="list-style-type: none"> • Describe how the atomic theory developed and the modern model of the atom • Explain how Mendeleev discovered the pattern that led to the Periodic Table • Identify data about the elements found in the Periodic Table • Summarize the properties of metals, nonmetals, and metalloids • Describe how metals, nonmetals, and metalloids are classified into families on the Periodic Table • Explain what determines an element’s chemistry • Explain how ions form • Explain how the formulas and names of ionic compounds are written • Identify properties of ionic compounds • Describe how atoms are held together in a covalent bond • Explain how mass is conserved during a chemical reaction • Explain how activation energy is related to chemical reactions and factors that affect the rate of chemical reactions 	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: Intro to Atoms WKST; Organizing the Elements WKST; Metals WKST; Nonmetals and Metalloids WKST; Periodic Table Quiz; Atoms, Bonding, and the Periodic Table WKST; Ionic Bonds WKST; Covalent and Metallic Bonds WKST; Observing Chemical Reactions WKST; Chemistry Unit Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> • Atom Model Project • Unit 3 Test 		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Writing Outcomes</p>	<ul style="list-style-type: none"> • CCSS.ELA-Literacy.WHST.6-8.1 • CCSS.ELA-Literacy.WHST.6-8.2 • CCSS.ELA-Literacy.WHST.6-8.4 • CCSS.ELA-Literacy.WHST.6-8.5 • CCSS.ELA-Literacy.WHST.6-8.6 • CCSS.ELA-Literacy.WHST.6-8.7 • CCSS.ELA-Literacy.WHST.6-8.8 	<p>Literature Based Writing:</p> <p>Informational Writing:</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Literature</p>
<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> • Intro to Atoms • Organizing the Elements • Metals 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Language/Lis tening and</p>				<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Focus Vocabulary</p>

<ul style="list-style-type: none">• Nonmetals & Metalloids• Atoms & Bonding• Ionic Bonds• Covalent and Metallic Bonds• Observing Chemical Changes• Controlling Chemical Changes <p>Review:</p> <ul style="list-style-type: none">• Chemistry Unit Review Sheet <p>Websites:</p> <ul style="list-style-type: none">• Brain Pop• YouTube				<p>Tier 3 – Content Vocabulary: Atom, electron, nucleus, proton, energy level, neutron, atomic number, isotope, mass number, atomic mass, periodic table, chemical symbol, period, group, metal, luster, malleable, ductile, thermal conductivity, electrical conductivity, reactivity, corrosion, alkali metal, alkaline earth metal, transition metal, nonmetal, diatomic molecule, halogen, noble gas, metalloid, semiconductor, valence electron, electron dot diagram, chemical bond, ion, polyatomic ion, ionic bond, ionic compound, chemical formula, subscript, crystal, covalent bond, molecule, metallic bond, alloy, reactant, product, precipitate, chemical equation, coefficient, activation energy, concentration, catalyst, enzyme, inhibitor</p>
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<p>Theme/Unit: Unit 4 – Motion and Forces (6 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> An object’s motion depends on speed, velocity, momentum, and acceleration, and must obey Newton’s three laws. Forces like, gravity and friction will also impact an object’s motion. Simple machines can be used to make the work of an object’s motion easier. 	<p><u>Reading Outcomes</u></p>	<p>Standards-Based Essential Skills to be Targeted Throughout the Unit</p>	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p>	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: Describing Motion WKST, Speed and Velocity WKST, Speed and Velocity Lab, Acceleration WKST, Motion Quiz, Nature of Forces WKST, Friction and Gravity WKST, Newton’s Laws of Motion WKST, Newton’s Law Brain Pop Quiz, Newton’s Law Practice, Momentum WKST, Momentum HW, Newton’s Laws Lab, Free Fall and Buoyancy WKST, Motion and Forces Review Sheet, Work and Power WKST, Inclined Planes and Levers WKST, Simple Machines Packet, Work and Machines Packet, Simple Machines Lab Quiz, Simple Machines Lab, Work and Machines Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> Unit 4 Test 		<p><u>Writing Outcomes</u></p>	<ul style="list-style-type: none"> CCSS.ELA-Literacy.WHST.6-8.1 CCSS.ELA-Literacy.WHST.6-8.2 CCSS.ELA-Literacy.WHST.6-8.4 	<p>Literature Based Writing:</p> <p>Informational Writing:</p>	<p><u>Literature</u></p>
<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> Describing Motion Speed and Velocity Acceleration 	<p><u>Language/Lis tening and</u></p>				<p><u>Focus Vocabulary</u></p>

<ul style="list-style-type: none">• Nature of Forces• Friction and Gravity• Newton's Laws• Momentum• Free Fall and Buoyancy• Work and Power• Inclined Planes and Levers <p>Review:</p> <ul style="list-style-type: none">• Newton's Laws Review• Motion and Forces Review Sheet• Work and Machines Review Sheet <p>Websites:</p> <ul style="list-style-type: none">• Brain Pop			<p>Tier 3 – Content Vocabulary:</p> <p>Motion, reference point, International System of Units, distance, speed, average speed, instantaneous speed, velocity, slope, acceleration, force, newton, net force, friction, sliding friction, fluid friction, rolling friction, gravity, mass, weight, inertia, momentum, law of conservation of momentum, free fall, centripetal force, buoyant force, work, joule, power, watt, machine, input force, output force, mechanical advantage, efficiency, simple machine, inclined plane, wedge, screw, lever, fulcrum, pulley, wheel and axle, compound machine</p>
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<p>Theme/Unit: Unit 5 – Energy (4 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> Energy comes in many different forms and can never be created or destroyed because it continually changes from one form of energy to another. 	<p><u>Reading Outcomes</u></p>	<p>Standards-Based Essential Skills to be Targeted Throughout the Unit</p>	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p>	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: What is Energy? WKST; Forms of Energy WKST; Energy Transformation WKST; Shaking Water Lab; Energy Quiz Review Sheet; Energy Quiz; Temperature, Thermal Energy, and Heat WKST; Thermal Properties WKST; Thermal Energy Practice Packet; Heat Energy and Particle Movement Practice; What are Waves? WKST; Properties of Waves; Nature of Sound; Properties of Sound; Waves of the Electromagnetic Spectrum WKST; Energy and Waves Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> Unit 5 Test 		<p><u>Writing Outcomes</u></p>	<ul style="list-style-type: none"> CCSS.ELA-Literacy.WHST.6-8.1 CCSS.ELA-Literacy.WHST.6-8.2 CCSS.ELA-Literacy.WHST.6-8.4 	<p>Literature Based Writing:</p> <p>Informational Writing:</p>	<p><u>Literature</u></p>
<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> What is Energy? Forms of Energy Energy Transformations 	<p><u>Language/Listening and</u></p>				<p><u>Poetry</u></p>
				<p><u>Focus Vocabulary</u></p>	<p>Tier 2 – Academic Vocabulary: Describe, explain, identify</p>

<ul style="list-style-type: none"> • Temperature, Thermal Energy, and Heat • Thermal Properties • What are Waves? • Properties of Waves • Nature of Sound • Properties of Sound • Waves of the Electromagnetic Spectrum <p>Review:</p> <ul style="list-style-type: none"> • Energy Review Sheet • Energy and Waves Review Sheet <p>Websites:</p> <ul style="list-style-type: none"> • Brain Pop 				<p>Tier 3 – Content Vocabulary: Energy, kinetic energy, potential energy, gravitational potential energy, elastic potential energy, mechanical energy, nuclear energy, thermal energy, electrical energy, electromagnetic energy, chemical energy, energy transformation, law of conservation of energy, temperature, Fahrenheit scale, Celsius scale, Kelvin scale, absolute zero, heat, convection, convection current, radiation, conduction, conductor, insulator, specific heat, thermal expansion, wave, medium, mechanical wave, vibration, transverse wave, crest, trough, longitudinal wave, compression, rarefaction, amplitude, wavelength, frequency, hertz, reflection, refraction, diffraction, pitch, loudness, intensity, decibel, Doppler effect, electromagnetic spectrum, radio waves, microwaves, radar, infrared rays, thermogram, visible light, ultraviolet rays, X-rays, gamma rays</p>
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<p>Theme/Unit: Unit 6 – Earth Science Review (4-6 weeks)</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> The Earth is only one tiny planet in a vast and infinite universe composed of galaxies of stars. Earth’s daily rotation and revolution around the Sun determines our weather/climate patterns and explains the variety of life that exists on Earth. The Earth is a rocky planet composed of minerals, rocks, and large tectonic plates that are continually moving and minutely changing the appearance of the planet. 	<p><u>Reading Outcomes</u></p>	<p>Standards-Based Essential Skills to be Targeted Throughout the Unit</p>	<p>Strategies or Best Practices Used to Explicitly Teach Skills and Concepts</p>	<p><u>Instructional Resources</u></p>	
<p>Assessments:</p> <p>Formative – During Unit: Celestial Objects WSKT, Rotation vs. Revolution WKST, Phases of the Moon WKST, Astronomy Quiz Review Sheet, Astronomy Quiz, Elements and Rock Cycle WKST, Rock Cycle Practice, Erosion Paragraph Response, Mineral Identification Lab, Identifying Rocks Lab, Rock Quiz, Layers of the Earth and Tectonic Plates WKST, Earthquake Lab, Graham Cracker Tectonic Plate Lab, Weather Packet #1, Weather Packet #2, Earth Science Review Sheet</p> <p>Summative – End of Unit:</p> <ul style="list-style-type: none"> Unit 6 Test 		<p><u>Writing Outcomes</u></p>	<ul style="list-style-type: none"> CCSS.ELA-Literacy.WHST.6-8.1 CCSS.ELA-Literacy.WHST.6-8.2 CCSS.ELA-Literacy.WHST.6-8.4 	<p>Literature Based Writing:</p> <p>Informational Writing:</p>	<p><u>Literature</u></p>
<p><u>Poetry</u></p>	<p><u>Informational</u></p>				

<p>Notes: Students will be given Guided Notes on the following subtopics:</p> <ul style="list-style-type: none"> • Celestial Objects • Rotation vs. Revolution • Phases of the Moon • Minerals and Rocks • Earth's Interior • Weather <p>Review:</p> <ul style="list-style-type: none"> • Astronomy Quiz Review Sheet • Rock Cycle Practice • Earth Science Review Sheet <p>Websites:</p> <ul style="list-style-type: none"> • Brain Pop • ReadWorks 	<u>Language/Listening and Speaking</u>			<u>Focus Vocabulary</u>	<p>Tier 2 – Academic Vocabulary: Describe, explain, identify, analyze, compare, arrange</p> <p>Tier 3 – Content Vocabulary: Celestial objects, apparent daily motion, heliocentric model, stars, galaxies, sun, planet, terrestrial planets, Jovian planets, asteroid, meteoroid, meteor, meteorite, comet, coordinate system, latitude, longitude, rotation, revolution, solar eclipse, lunar eclipse, tide, neap tide, lithosphere, hydrosphere, atmosphere, mineral, color, luster, streak, hardness, cleavage, heft, rock, fossils, igneous, sedimentary, metamorphic, magma, lava, volcano, weathering, erosion, crust, mantle, core, tectonic plates, divergent boundaries, transform/fracture boundaries, convergent boundaries, earthquake, weather, air pressure, wind, convection, humidity, clouds, cirrus, cumulus, cumulonimbus, stratus, precipitation, sleet, hail, air mass, front, thunderstorm, tornado, hurricane, climate</p>
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