

Trimester 1				
Math 7	Algebra 7/8	Social Studies	Science	Language Arts
<p><u>Unit 1: Scale Drawings</u></p> <p>Scaled copies Corresponding parts Scale Factor Scaling and Area Scale Drawings and Maps Creating Scale Drawings Changing Scales</p> <p><u>Unit 2: Introducing Proportional Relationships</u></p> <p>Tables Constant of Proportionality Proportional Equations Two Equations for Each Relationship Using, Interpreting and Comparing with Graphs</p>	<p><u>Chapter 1: Real Numbers</u></p> <p>Fractions Order of Operations Operations with Real Numbers Algebraic Expressions Properties of Real Numbers</p> <p><u>Chapter 2: Equations and Inequalities</u></p> <p>Solve Linear Equations -One-step -Two-step -Multi-step Formulas Problem Solving Linear Inequalities</p> <p><u>Chapter 3: Graphs, Equations of Lines, Functions, Variation</u></p>	<p><u>Physical Geography:</u></p> <ul style="list-style-type: none"> -50 States -Five themes of Geography -World Regions -Location & Map Skills -Landforms -Waters of the Earth -Extreme Weather <p><u>Human Geography:</u></p> <ul style="list-style-type: none"> -Culture -World Religions -Governments -Economic Systems -Human Rights <p><u>Mesopotamia:</u></p> <ul style="list-style-type: none"> -Historical Timelines: B.C., A.D./B.C.E., C.E. -Cradle of Civilization/Fertile Crescent -Sumerians, Assyrians, Persians -Code of Hammurabi 	<p>Motion and Stability- Newton's Laws MS-PS 2-1 MS-PS2-2</p> <p>Objective and Essential Questions -“How can one describe physical interactions between objects and within systems of objects?”</p> <p>StemScopes: -Changes in Force and Motion -Newton's Third Law of Motion</p> <p>PBL: Balloon Racing</p> <p>Motion and Stability- Gravity, Magnetism, Electricity MS PS2-3 MS PS2-4 MS-PS2-5</p> <p>Objective and Essential Questions -Develop an understanding of gravitational, electrical, and magnetic forces</p>	<p>Building Blocks/Foundational Skills --grammar --elements of story</p> <p>The Short Story --The Tell-Tale Heart (Poe) --The Celebrated Jumping Frog of Calaveras County (Twain) --The Necklace (DeMaupassant) --The Monkey's Paw (Jacobs) --The Legend of Sleepy Hollow (Irving) Greek & Latin roots (vocabulary)</p> <p>Public Speaking- -Book talk</p>

<p>Unit 3:Circles</p> <p>Exploring Circles Exploring and Applying Circumference Exploring and Estimating Area Relating Area to Circumference Area Applications</p>	<p>Rectangular Coordinates Graphs of Linear equations Slope Point-Slope Form Slope-Intercept Form Functions Variation</p>	<p>-Cuneiform -Epic of Gilgamesh</p> <p><u>Ancient Egypt:</u></p> <p>-Pyramids -Key Figures: Hatshepsut, Akhenaten, Tutankhamen, Cleopatra -Nile River -Arab Spring -Modern Egypt</p>	<p>StemScopes:</p> <p>-Electric and Magnetic Forces -Gravitational Forces</p> <p>PBL:</p> <p>Research Poster/ Electromagnetic investigation</p>	
<p>Trimester 2</p>				
<p>Unit 4:Proportional Relationships and Percentages</p> <p>Ratios and Rates with Fractions Fractions/Decimals/ Percents Increasing and Decreasing Equations for Percent Increase and Decrease Tax and Tip Find Percent and Percent Error Measurement Error</p>	<p>Chapter 7: <u>Systems of Equations</u></p> <p>Solve Systems by -Graphing -Substitution -Elimination</p> <p>Solve Systems of Linear Inequalities</p> <p>Chapter 4: <u>Polynomials</u></p> <p>Exponent Rules Zero and Negative Exponents</p>	<p>Ancient Greece:</p> <p>-Mythology -Democracy -Birthplace of Western Culture -Greco-Persian Wars -Hellenism -Alexander the Great -Philosophy</p> <p>Ancient Rome:</p> <p>-Punic Wars -Engineering - Roman Republic -Julius Caesar -Roman Empire - Fall of Rome</p>	<p>Energy- Kinetic and Potential Energy MS-PS3-1 MS-PS3-2 MS-PS3-5</p> <p>Objective and Essential Questions</p> <p>-Understand the transfer of energy and energy in a system -Study kinetic and potential energy -“How can energy be transferred from one object or system to another?”</p> <p>StemScopes:</p> <p>-Kinetic Energy -Potential Energy</p> <p>PBL:</p>	<p>Informational writing: –Themes in short stories</p> <p>Novel: <i>Letters from Rifka</i></p> <p>–Research & Research paper: Pioneers (Explore a pioneer in a field of students’ choice)</p>

<p><u>Unit 5:Rational Number Arithmetic</u></p> <p>Interpret Negatives Temperature Elevation Money and Debt Operations with Rational Numbers Solve Equations with Rational Numbers Using Rational Numbers in Context</p> <p><u>Unit 6: Equations</u> (Carries into T3)</p> <p>Solving Equations: Tape Diagrams Hangers</p> <p>Dealing with Negatives One-step, Two-step, and Multi-step Equations Inequalities Expanding (Distributive Property) and Factoring</p> <p>Combining Like Terms</p>	<p>Scientific Notation Polynomials -add and subtract -multiply/divide</p> <p><u>Chapter 5: Factoring</u></p> <p>GCF of Polynomials Factor by Grouping</p> <p>Factoring -Difference of Two Squares -Trinomials $a = 1$ -Trinomials $a \neq 1$ -Sum and Difference of Two Cubes</p> <p>Solve by Factoring Applications</p>		<p>Rollercoaster build with data poster</p> <p>Energy- Transfer of Thermal Energy MS-PS3-3 MS-PS3-4</p> <p>Objective and Essential Questions -How does heat move throughout the universe? -Understand energy and temperature</p> <p>StemScopes: -Thermal Energy Transfer - Energy Transfer and Temperature</p> <p>PBL: Smores oven</p> <p>Structure and Properties of Matter MS-PS 1.4 MS-PS 1.1 MS-PS 1.3</p> <p>Objective and Essential Questions “How can particles combine to produce a substance with different properties? How does thermal energy affect particles?”</p>	
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Trimester 3				
<u>Unit 7: Angles, Triangles, and Prisms</u> Adjacent and Nonadjacent Angles (Complementary and Supplementary) Vertical Angles Use Equations to solve for angles Building Polygons Triangles -common angles -common sides Solid Geometry Volume and Surface Area of Right Prisms <u>Unit 8: Probability and Sampling</u> Probability Multi-Step Experiments Populations and Random Sampling	<u>Chapter 6: Rational Equations; Ratio and Proportion</u> Simplify Rational Expressions Multiply and Divide Rational Expressions Add and Subtract Rational Expressions Complex Fractions Solving Equations containing Rational Expressions Applications Ratios Proportions and Similar Triangles <u>Chapter 8: Radicals and Radical Equations</u> Square Roots The Pythagorean Theorem Simplify Radicals Operations with	<u>Middle Ages:</u> -Feudalism -Castles -Vikings -Norman Conquests -Crusades -Magna Carta -Black Death <u>East Asia:</u> -Social Divisions -Cultural Isolation -Mulan -Genghis Khan -Silk Road -Great Wall -Confucius -Samurai -Modern China -North & South Korea <u>South Asia:</u> -Indus Valley Civilization -Caste System -Mauryan, Gupta, &	Structure and Properties of Matter- Chemical Reactions MS-PS 1.2 MS-PS 1.5 MS-PS 1.6 Objective and Essential Questions “What happens when new materials are formed? What stays the same and what changes?” “What is a chemical reaction?” Stemscores: -Physical and Chemical Properties -Characteristics of Chemical reactions -Modeling the Conservation of Mass PBL: Chemistry in a bag/Endothermic and exothermic changes Waves and Electromagnetic Radiation	–Exploring Poetry Public Speaking: Present a Poem –Shakespeare: <i>A Midsummer Night's Dream</i>

<p>Measures of Center Dot Plots Box and Whisker Plots Compare Populations</p>	<p>Radicals Solve Equations containing Radicals Distance Formula</p> <p><u>Chapter 9:</u> <u>Quadratic Equations</u></p> <p>Solving with -Square Root Property -Completing the Square -Quadratic Formula</p> <p>Graph Quadratic Functions Complex and Imaginary Numbers</p>	<p>Mughal Empire -Colonialism & Independence -Mohandas Gandhi -Partition of India & Pakistan</p> <p><u>Renaissance:</u> -Rebirth of Western Culture -Humanism -Art -Inventions & Technology</p> <p><u>Age of Discovery:</u> -Exploration and discovery of Americas -Columbian Exchange -Aztec, Mayan, & Incan Culture -Spanish Conquest - Early Colonization</p>	<p>MS-PS4-1 MS-PS4-2 MS-PS4-3</p> <p>Objective and Essential Questions “What are the characteristic properties of waves and how can they be used?” -Apply understanding of waves as a means to send digital information</p> <p>Stemscopes: -Introduction to properties of Waves -Modeling Waves through Various Mediums -Properties of visible light -Digital vs. Analog Signals</p> <p>PBL: Making Musical instruments with presentations</p>	
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