

Mystic Valley Regional Charter School

Fourth Grade Curriculum Matrix- draft

	Reading - Direct Instruction	Mathematics - Saxon	Science - Core Knowledge	History - Core Knowledge
August/ September	<p>Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Study Skills</p> <p>Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning</p>	<ol style="list-style-type: none"> 1) Reads and writes numbers to one thousand. 2) Counts money 3) Writes money amounts using \$ and ¢ 4) Rounds numbers to the nearest ten. Even and odd numbers 5) Multiples 6) Sums, products and differences 7) Commutative and associative properties 8) Masters basic addition facts 9) Mental computation 10) Adds three or more single digit numbers 11) Adds whole number and money amounts 12) Identifies and writes fractions as part of a whole 13) Compares and orders fractions 14) Uses comparison symbols (<, > and =) 15) Horizontal, vertical, oblique, parallel, interesting and perpendicular line segments 16) Symmetry 17) Equivalent units of time 18) Circumference of a circle 19) Graphs -data on a bar graph 20) Conducts a survey 	<p><i>Meteorology</i></p> <ul style="list-style-type: none"> • Weather phenomenon • Temperature measurement • Water cycle • Clouds • Measuring rainfall • Weather maps • Thunder and lightning 	<p><i>World Mountains</i></p> <ul style="list-style-type: none"> • Erosion • Vocabulary (plateau, terrace) • Distinguishing features of a mountain habitat • Animals in a mountain habitat • Resources provided by mountains • Effect of mountains on rainfall <p><i>Using Maps</i></p> <ul style="list-style-type: none"> • Scale • Route planning • Vocabulary (equator, latitude, longitude) • Using coordinates • Giving directions • Time zones • Elevation
October	<p>Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Study Skills</p> <p>Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning</p>	<ol style="list-style-type: none"> 1) Reads and writes numbers to one thousand. 2) Counts money 3) Writes money amounts using \$ and ¢ 4) Rounds numbers to the nearest ten. Even and odd numbers 5) Multiples 6) Sums, products and differences 7) Commutative and associative properties 8) Masters basic addition facts 9) Mental computation 10) Adds three or more single digit numbers 11) Adds whole number and money amounts 12) Identifies and writes fractions as part of a 	<p><i>Geology</i></p> <ul style="list-style-type: none"> • Layers of the earth • Theories • Earthquakes • Plate tectonics • Ring of Fire and Mid-Atlantic ridge • Volcanoes 	<p>October/November <i>The American Revolution</i></p> <ul style="list-style-type: none"> • Colonies and colonists • Rights of Englishmen • Conflict between the French and the British • French and Indian War • Stamp Act • Boston Massacre • Sam Adams and the Committees of Correspondence • Boston Tea Party • Intolerable Acts • Declaration of Independence

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		whole 13) Compares and orders fractions 14) Uses comparison symbols (<,>and =) 15) Horizontal, vertical, oblique, parallel, interesting and perpendicular line segments 16) Symmetry 17) Equivalent units of time 18) Circumference of a circle 19) Graphs -data on a bar graph 20) Conducts a survey		<ul style="list-style-type: none"> Revolutionary War
November	Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Study Skills Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning	1) Reads and writes numbers to one thousand. 2) Counts money 3) Writes money amounts using \$ and ¢ 4) Rounds numbers to the nearest ten. Even and odd numbers 5) Multiples 6) Sums, products and differences 7) Commutative and associative properties 8) Masters basic addition facts 9) Mental computation 10) Adds three or more single digit numbers 11) Adds whole number and money amounts 12) Identifies and writes fractions as part of a whole 13) Compares and orders fractions 14) Uses comparison symbols (<,>and =) 15) Horizontal, vertical, oblique, parallel, interesting and perpendicular line segments 16) Symmetry 17) Equivalent units of time 18) Circumference of a circle 19) Graphs -data on a bar graph 20) Conducts a survey	<i>Geology (continued)</i> <ul style="list-style-type: none"> Geothermal energy Types of mountains Types of rocks Process of rock formation Fossils 	<i>The United States Constitution</i> <ul style="list-style-type: none"> Formation of the Constitution Separation of church and state Articles of Conferation Important people of this time period (Washington, Hamilton, and Madison) Checks and balances Federalists and Anti-Federalists Constitutional Amendments
December	Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills	Continue previous skills 1) Reads and writes numbers to one billion 2) Rounds to the nearest hundred 3) Identifies place value in number to	<i>Geology (continued)</i> <ul style="list-style-type: none"> Fossils – how plants and animals are preserved <u>Fossils from the Ice Age</u>, Caroline Arnold 	January <i>American History, Early Presidents and Political Parties, and the Geography of Canada</i> <ul style="list-style-type: none"> Washington and Jackson Components of United States

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	<p>Study Skills</p> <p>Deductions</p> <p>Sentence analysis</p> <p>Punctuation</p> <p>Editing</p> <p>Paragraph writing</p> <p>Writing Stories</p> <p>Writing Letters</p>	<p>100,000,000</p> <p>4) Identifies quotient, dividend and divisor</p> <p>5) Masters basic subtraction facts</p> <p>6) Mental computation.</p> <p>7) Estimates a sum</p> <p>8) Adds and subtracts whole number and money amounts</p> <p>9) Multiplies by 10, 100, 1,000 and 10,000.</p> <p>10) Masters division facts</p> <p>11) Compares and orders fractions</p> <p>12) Identifies equivalent fractions</p> <p>13) Draws and locates point on a number line</p> <p>14) Geometry</p> <ul style="list-style-type: none"> • Polygons • Congruent line segments and shapes • Transformations: translations, rotations, and reflections <p>15) Measurement</p> <ul style="list-style-type: none"> • Tells time to the nearest quarter hour • Elapse time • U.S. time zones • Fahrenheit and Celsius • Mass • Measures the area of a rectangle <p>16) Graphing</p> <ul style="list-style-type: none"> • Venn diagrams • Writes observations from a graph 	<ul style="list-style-type: none"> • <u>Dinosaurs Walked Here and Other Stories Fossils Tell</u>, Patricia Lauber • <u>Fossils from the Earth</u>, William Russell • Poem written by amber collector Gary Platt • Eras • Dinosaurs <ul style="list-style-type: none"> • Benjamin Banneker 	<p>government</p> <ul style="list-style-type: none"> • Early decisions made by U.S. government • Hamilton and Jefferson • John Adams • Washington, D.C. • Jefferson • Louisiana Territory • Madison • Monroe • John Quincy Adams • Jackson and the Common Man • “The Star Spangled Banner”
January	<p>Decoding</p> <p>Vocabulary</p> <p>Literal Comprehension</p> <p>Inferential Comprehension</p> <p>Literary Skills</p> <p>Study Skills</p> <p>Deductions</p> <p>Sentence analysis</p> <p>Punctuation</p> <p>Editing</p> <p>Paragraph writing</p> <p>Writing Stories</p>	<p><i>Continue previous skills</i></p> <p>1) Reads and writes numbers to one billion</p> <p>2) Rounds to the nearest hundred</p> <p>3) Identifies place value in number to 100,000,000</p> <p>4) Identifies quotient, dividend and divisor</p> <p>5) Masters basic subtraction facts</p> <p>6) Mental computation.</p> <p>7) Estimates a sum</p> <p>8) Adds and subtracts whole number and money amounts</p>	<p><i>Circulatory System</i></p> <ul style="list-style-type: none"> • Parts of the heart • Effect of exercise on the circulatory system • Veins and capillaries • Heart rate • <u>The Heart and Blood</u>, Jan Burgess • <u>The Body Book</u>, Sara Stein • Blood • Dr. Drew and the American 	<p>January</p> <p><i>Abolitionists and Reformers</i></p> <ul style="list-style-type: none"> • <u>Kids at Work</u>, by Russell Freedman • <u>The Dred Scott Decision</u>, by Brendan January • American reformers of the 1830’s and 1840’s • Democracy and Horace Mann schools • Slavery and Abolitionism • Garrison and the newspaper

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	Writing Letters	9) Multiplies by 10, 100, 1,000 and 10,000. 10) Masters division facts 11) Compares and orders fractions 12) Identifies equivalent fractions 13) Draws and locates point on a number line 14) Geometry <ul style="list-style-type: none"> • Polygons • Congruent line segments and shapes • Transformations: translations, rotations, and reflections 15) Measurement <ul style="list-style-type: none"> • Tells time to the nearest quarter hour • Elapse time • U.S. time zones • Fahrenheit and Celsius • Mass • Measures the area of a rectangle 16) Graphing <ul style="list-style-type: none"> • Venn diagrams • Writes observations from a graph 	Red Cross	<ul style="list-style-type: none"> • Women's Rights and Seneca Falls • Elizabeth Cady Stanton, Lucretia Mott, and Lucy Stone
February	Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Study Skills Deductions Sentence analysis Punctuation Editing Paragraph writing Writing Stories Writing Letters	<i>Continue previous skills</i> 1) Reads and writes numbers to one billion 2) Rounds to the nearest hundred 3) Identifies place value in number to 100,000,000 4) Identifies quotient, dividend and divisor 5) Masters basic subtraction facts 6) Mental computation. 7) Estimates a sum 8) Adds and subtracts whole number and money amounts 9) Multiplies by 10, 100, 1,000 and 10,000. 10) Masters division facts 11) Compares and orders fractions 12) Identifies equivalent fractions 13) Draws and locates point on a number line 14) Geometry <ul style="list-style-type: none"> • Polygons 	<i>Respiratory System</i> <ul style="list-style-type: none"> • Breathing rates • <u>The Human Body</u>, Sally Morgan • Parts of the respiratory system • Lung capacity • Effects of cigarette smoking on lungs • Elizabeth Blackwell 	February/March <i>Fall of the Roman Empire</i> <ul style="list-style-type: none"> • <u>Beyond the Myth: The Story of Joan of Arc</u>, Brooks • <u>The Hundred Years War</u>, Lacey • <u>What Life Was Like in the Age of Chivalry</u>, Time-Life Books • Reasons for fall of Roman Empire • Tribes involved in the decline of the Roman Empire • The Dark Ages <i>Europe in the Middle Ages</i> <ul style="list-style-type: none"> • Magna Carta <ul style="list-style-type: none"> ○ The role of churches during the Middle Ages

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		<ul style="list-style-type: none"> • Congruent line segments and shapes • Transformations: translations, rotations, and reflections 15) Measurement <ul style="list-style-type: none"> • Tells time to the nearest quarter hour • Elapse time • U.S. time zones • Fahrenheit and Celsius • Mass • Measures the area of a rectangle 16) Graphing <ul style="list-style-type: none"> • Venn diagrams • Writes observations from a graph 		<ul style="list-style-type: none"> ○ Feudal Society ○ France and Charlemagne ○ Women in the Middle Ages ○ William the Conqueror ○ Henry the II and the line of kings ○ Queen of France ○ The Hundred Years War ○ Joan of Arc ○ The Black Death
March	Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Literary Devices Study Skills Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning Writing Stories Writing Letters	<i>Continue previous skills</i> 1) Counts by 100's 2) Compares and orders 2-, 3- and 4-digits numbers 3) Rounds to the nearest thousand 4) Identifies prime and composite numbers 5) Roman numerals 6) Multiplies by multiples of 10, 100, 1,000 and 10,000 7) Multiplies using the multiplication algorithm 8) Divides 2-,3-, and 4-digit numbers by and single digit number 9) Equivalent fractions 10) Adds positive a negative numbers 11) Geometry <ul style="list-style-type: none"> • Identifies and sorts geometric shapes by attribute 12) Measurement <ul style="list-style-type: none"> • Area and perimeter 13) Graphing <ul style="list-style-type: none"> • Tallies, Bar Graph • Mean, median 14) Probability	<i>Chemistry</i> <ul style="list-style-type: none"> • 3 States of matter • Oxygen • Chemical formulas • Atomic weight 	April <i>The Spread of Islam</i> <ul style="list-style-type: none"> • The Pillars of Islam • Muhammad • The Story of the Sacred Stone • The Spread of Islam • Islamic culture • The Crusades

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April	<p>Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Literary Devices Study Skills</p> <p>Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning Writing Stories Writing Letters</p>	<p><i>Continue previous skills</i></p> <ol style="list-style-type: none"> 1) Counts by 100's 2) Compares and orders 2-, 3- and 4-digits numbers 3) Rounds to the nearest thousand 4) Identifies prime and composite numbers 5) Roman numerals 6) Multiplies by multiples of 10, 100, 1,000 and 10,000 7) Multiplies using the multiplication algorithm 8) Divides 2-,3-, and 4-digit numbers by and single digit number 9) Equivalent fractions 10) Adds positive a negative numbers 11) Geometry <ul style="list-style-type: none"> • Identifies and sorts geometric shapes by attribute 12) Measurement <ul style="list-style-type: none"> • Area and perimeter 13) Graphing <ul style="list-style-type: none"> • Tallies and bar graphs • Mean, median 14) Probability 	<p><i>Electricity</i></p> <ul style="list-style-type: none"> • Static electricity • Parts of a light bulb • Electrons • Parts of a battery • Circuits • Conductors and insulators • Morse code 	<p>May</p> <p><i>African Kingdoms</i></p> <ul style="list-style-type: none"> • Geography of Africa • Kingdoms of Kush and Aksum • Trans-Sahara Trade • Ghana, Land of Gold • Mali and Sundiata Keita • Mansa Masa and Pilgrimage • Sanghai and Askia Muhammad • Travels of Ibn Batutta
May	<p>Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Literary Devices Study Skills</p> <p>Deductions Sentence analysis Punctuation Editing Paragraph writing</p>	<p><i>Continue previous skills</i></p> <ol style="list-style-type: none"> 1) Reads and writes money amounts to \$99,999,99 2) perfect squares, square roots and cube roots. 3) Identifies the value of p 4) Order of operations 5) Multiplies using the multiplication algorithm 6) Solves problems using multiplication and division 7) Compares and orders fractions 	<p><i>Electricity</i></p> <ul style="list-style-type: none"> • Series circuits • Short circuits • Current detectors • Electromagnets 	<p>June</p> <p><i>Dynasties of China</i></p> <ul style="list-style-type: none"> • The First Emperor • The Han Dynasty • Wu Zhao • The Tang Dynasty • The Peddler's Curse • The Emperors of China • Town and Country • The Mongol Invasions • Khubla Khan and Marco Polo • The Forbidden City • The Last Dynasty

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	Reasoning Writing Stories Writing Letters	8) Tenth and hundredths using common and decimal forms 9) Adds and subtracts fractions 10) Simplifies expressions containing addition, subtraction, multiplication and division 11) Point on a coordinate graph 12) Geometry <ul style="list-style-type: none"> • Obtuse, right, straight and acute angles • Triangles and angle size • 3-dimensional geometric objects 13) Measurement <ul style="list-style-type: none"> • Capacity and volume 14) Probability		
June	Decoding Vocabulary Literal Comprehension Inferential Comprehension Literary Skills Literary Devices Study Skills Deductions Sentence analysis Punctuation Editing Paragraph writing Reasoning Writing Stories Writing Letters	<i>Continue previous skills</i> 1) Reads and writes money amounts to \$99,999.99 2) perfect squares, square roots and cube roots. 3) Identifies the value of p 4) Order of operations 5) Multiplies using the multiplication algorithm 6) Solves problems using multiplication and division 7) Compares and orders fractions 8) Tenth and hundredths using common and decimal forms 9) Adds and subtracts fractions 10) Simplifies expressions containing addition, subtraction, multiplication and division 11) Point on a coordinate graph 12) Geometry <ul style="list-style-type: none"> • Obtuse, right, straight and acute angles • Triangles and angle size • 3-dimensional geometric objects 13) Measurement <ul style="list-style-type: none"> • Capacity and volume 14) Probability	<i>Electricity continued</i> <ul style="list-style-type: none"> • Series circuits • Short circuits • Current detectors • Electromagnets 	

Reading— Reading instruction takes place in small groups based on individual student skill. Placement tests are used at the beginning of the year to accurately assign students to groups and then given throughout the year to determine mobility within the groups. As a result, not all students in Fourth Grade follow the same course of study at the same pace. Strong decoding skills are combined with comprehension strategies to enable students to understand what they read and make stories come alive. The goal is for all students to be confident, strategic, independent readers. The following concepts and standards are addressed in Fourth Grade, yet do not follow the same sequence of study for all students. As a result, some of the skills noted below may have carried over from Third grade for some students and may carry over to Fifth Grade for others, depending on students' level of mastery.

Mathematics— Incremental development and continual practice and review are two important aspects of the Mystic Valley Regional Charter School's elementary math program¹. The math program provides students with a carefully sequenced development of concepts and time to practice skills in subsequent lessons. Each day begins with a math meeting to establish a routine and practice skills related to calendar, time, temperature, money, counting, patterning and problem solving. In addition, a new objective is introduced through a carefully planned group activity each lesson. Students are given opportunities to work independently and practice math skills and concepts. The goal is develop a solid foundation of understanding for math in the upcoming years.

History and Geography— In the Fourth grade, the History and Geography curriculum continues to focus on United States and World History. Students will learn about the exploration, the explorers, and the long-term effects of these journeys. Student will also learn about the Ancient Romans and the parts of modern society that were derived from this culture. Within the area of Geography, students will continue to build on their spatial understanding and their geographic vocabulary.

Science— The Science curriculum in the Fourth grade will explore a variety of topics in Life Science, Physical Science, and Earth and Space Science. Instruction will focus on hands-on experiences and observation while also building reading and writing skills. Students will conduct experiments and read literature that will broaden their understanding of scientific concepts.

Character Education— The character education program at Mystic Valley Regional Charter School is literature based. Students listen to, read and discuss literature and how the stories exemplify the virtue of the month. The goal is to cultivate character through the promotion of basic moral, civic and intellectual virtues.²

Music and Visual Arts— Music and the arts are an integral part of the curriculum focusing on creativity and active participation. Instruction is non-competitive and provides significant opportunities to sing, dance, listen to music, play act, listen to and read poetry, draw, paint, and create. In addition, children are also exposed to great pieces of art and music.

¹ Saxon Publishers Saxon Mathematics K-4 Program Overview, 2001 p. 9

² Klee, Mary Beth; Core Virtues 2000