

**ALIGNMENT OF MONTESSORI MATERIALS AND LESSONS WITH
COLORADO ACADEMIC STANDARDS**

~Fifth Grade~

Contents

Reading, Writing, and Communicating – 5th grade 2

 1. Oral Expression and Listening..... 3

 2. Reading for All Purposes..... 6

 3. Writing and Composition 13

 4. Research and Reasoning..... 18

Mathematics- 5th Grade 21

 1. Number Sense, Properties, and Operations 21

 2. Patterns, Functions, and Algebraic Structures 26

 3. Data Analysis, Statistics, and Probability..... 27

 4. Shape, Dimension, and Geometric Relationships 28

Science – 5th Grade 31

 1. Physical Science 31

 2. Life Science 32

3. Earth Systems Science.....	33
Social Studies – 5 th Grade.....	36
1. History.....	36
2. Geography	38
3. Economics.....	39
4. Civics.....	40

Reading, Writing, and Communicating – 5th grade

1. Oral Expression and Listening

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. Effective communication requires speakers to express an opinion, provide information, describe a process, and persuade an audience</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Describe a process and persuade an audience. <ul style="list-style-type: none"> • Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes. • Use appropriate eye contact and speak clearly at an understandable pace. b. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. c. Adapt speech to a variety of contexts and tasks. d. Adapt language as appropriate to 	<p>Work Time, Circle Time, Lit Groups, Classroom Problem Solving, Read Aloud, Moral Stories, Grace and Courtesy, Community Building, Presentation of Work, Book Reports, Writer’s Workshop, Poetry Slam, Songs, Persuasive Essays, Debates,</p>	

	purpose: to persuade, explain/provide information, or express an opinion.		
2. Listening strategies are techniques that contribute to understanding different situations and serving different purposes	<p>Students Can:</p> <ul style="list-style-type: none"> a. Listen to others' ideas and form their own opinions. b. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. <ul style="list-style-type: none"> • Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion. • Follow agreed-upon rules for discussions and carry out assigned roles. • Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. • Review the key ideas expressed and draw conclusions in light of information and knowledge 	Lit Group, Class Meetings, Problem Solving Groups, Committees,	

	<p>gained from the discussions.</p> <p>c. Model a variety of active listening strategies (eye contact, note taking, questioning, formulating clarifying questions).</p> <ul style="list-style-type: none">• Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally. <p>d. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.</p>		
--	--	--	--

2. Reading for All Purposes

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. Literary texts are understood and interpreted using a range of strategies</p>	<p>Students Can:</p> <ol style="list-style-type: none"> a. Use pre-reading strategies, such as identifying a purpose for reading, generating questions to answers while reading, previewing sections of texts and activating prior knowledge. b. Use Key Ideas and Details to: <ul style="list-style-type: none"> • Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. • Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text. • Compare and contrast two or more characters' points of view, settings, or events in a story or 	<p>Research, Word Studies, Literature Circles (guiding reading), Author Study, Biography Study,</p> <p>Supplemental: Power Builders/SRAs, Poetry Studies,</p>	

	<p>drama, drawing on specific details in the text (e.g., how characters interact).</p> <p>c. Use Craft and Structure to:</p> <ul style="list-style-type: none">• Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.• Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.• Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.• Describe how a narrator or speaker's point of view influences how events are described.• Locate information to support opinions, predictions, inferences, and identification of the author's message or theme.• Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems. <p>d. Use Integration of Knowledge and Ideas to:</p> <ul style="list-style-type: none">• Analyze how visual and multimedia elements contribute to		
--	---	--	--

	<p>the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).</p> <ul style="list-style-type: none"> • Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics. • Use knowledge of literary devices (such as imagery, rhythm, foreshadowing, simple metaphors) to understand and respond to text. <p>e. Use Range of Reading and Complexity of Text to:</p> <ul style="list-style-type: none"> • By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently. 		
<p>2. Ideas found in a variety of informational texts need to be compared and</p>	<p>Students Can:</p> <p>a. Use Key Ideas and Details to:</p> <ul style="list-style-type: none"> • Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. • Determine two or more main ideas 	<p>Cultural Control Charts, Cultural Works (example: Timeline of Life, Fundamental Needs of Humans, Civilization Timeline, Kingdom Studies), Research, Word Studies, Literature Circles</p>	

<p>understood</p>	<p>of a text and explain how they are supported by key details; summarize the text.</p> <ul style="list-style-type: none"> • Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. • Distinguish between fact and opinion, providing support for judgments made. <p>b. Use Craft and Structure to:</p> <ul style="list-style-type: none"> • Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area. • Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. • Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent. • Use informational text features (such as bold type, headings, 	<p>(guiding reading), Author Study, Biography Study, Cultural Nomenclature</p> <p>Supplemental: Power Builders/SRAs, Poetry Studies, Research Outlines, Project Planners, Graphic Organizers</p>	
-------------------	--	--	--

	<p>graphic organizers, numbering schemes, glossary) and text structures to organize or categorize information, to answer questions, or to perform specific tasks.</p> <p>c. Use Integration of Knowledge and Ideas to:</p> <ul style="list-style-type: none">• Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.• Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).• Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. <p>d. Use Range of Reading and Complexity of Text to:</p> <ul style="list-style-type: none">• By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently		
--	---	--	--

	and proficiently.		
3. Knowledge of morphology and word relationships matters when reading	<p>Students Can:</p> <ol style="list-style-type: none"> a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context. b. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies. <ul style="list-style-type: none"> • Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase. • Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., photograph, photosynthesis). • Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. 	<p>Etymology Studies, Morphology Studies, Word Studies, Lit Groups (guided reading), Grammar Studies, Sentence Analysis</p> <p>Supplemental: Latin Study, Instructional Spelling Program, Dictionary and Thesaurus Works, Self-Editing</p>	

	<ul style="list-style-type: none">c. Read and identify the meaning of words with sophisticated prefixes and suffixes.d. Apply knowledge of derivational suffixes that change the part of speech of the base word (such as active, activity).e. Infer meaning of words using structural analysis, context, and knowledge of multiple meanings.f. Read and identify the meaning of roots and related word families in which the pronunciation of the root does not change.g. Read with sufficient accuracy and fluency to support comprehension.<ul style="list-style-type: none">• Read grade-level text with purpose and understanding.• Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.• Use context to confirm or self-correct word recognition and understanding, rereading as necessary.		
--	--	--	--

3. Writing and Composition

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. The recursive writing process contributes to the creative and unique literary genres for a variety of audiences and purposes</p>	<p>Students Can:</p> <p>a. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.</p> <ul style="list-style-type: none"> • Create personal and fictional narratives with a strong personal voice. • Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. • Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations. • Use a variety of transitional words, phrases, and clauses to manage the sequence of events. 	<p>Sentence Analysis, Grammar Boxes, Cultural Research Work</p> <p>Supplemental: Writer's Workshop, Step Up, Six Traits Writing, Write Source Text Books, Guided Outlines, Graphic Organizers</p>	

	<ul style="list-style-type: none"> • Use concrete words and phrases and sensory details to convey experiences and events precisely. • Provide a conclusion that follows from the narrated experiences or events. <p>b. Write poems using poetic techniques (alliteration, onomatopoeia); figurative language (simile, metaphor); and graphic elements (capital letters, line length)</p>		
<p>2. The recursive writing process creates stronger informational and persuasive texts for a variety of audiences and purposes</p>	<p>Students Can:</p> <p>a. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.</p> <ul style="list-style-type: none"> • Include cause and effect, opinions, and other opposing viewpoints in persuasive writing • Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. • Provide logically ordered reasons that are supported by facts and details. • Link opinion and reasons using words, phrases, and clauses (e.g., 	<p>Sentence Analysis, Grammar Boxes, Cultural Research Work</p> <p>Supplemental: Writer's Workshop, Step Up, Six Traits Writing, Write Source Text Books, Guided Outlines, Graphic Organizers</p>	

	<p>consequently, specifically).</p> <ul style="list-style-type: none">• Provide a concluding statement or section related to the opinion presented. <p>b. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <ul style="list-style-type: none">• Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.• Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.• Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).• Use precise language and domain-specific vocabulary to inform about or explain the topic.• Provide a concluding statement or section related to the information or explanation presented.		
--	---	--	--

<p>3. Conventions apply consistently when evaluating written texts</p>	<p>Students Can:</p> <p>a. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <ul style="list-style-type: none"> • Use punctuation to separate items in a series. • Use a comma to separate an introductory element from the rest of the sentence. • Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?), and to indicate direct address (e.g., Is that you, Steve?). • Use underlining, quotation marks, or italics to indicate titles of works. • Spell grade-appropriate words correctly, consulting references as needed. <p>b. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.</p> <ul style="list-style-type: none"> • Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. • Form and use the perfect (e.g., I 	<p>Sentence Analysis, Grammar Studies, Word Studies, Punctuation Key Lessons</p> <p>Supplemental: Writer's Workshop Conventions, Editing Process, Published Writing, Projects for a variety of audiences, Instructional Spelling Program, keyboarding software</p>	
--	---	---	--

	<p>had walked; I have walked; I will have walked) verb tenses.</p> <ul style="list-style-type: none">• Use verb tense to convey various times, sequences, states, and conditions.• Recognize and correct inappropriate shifts in verb tense.• Use correlative conjunctions (e.g., either/or, neither/nor). <p>c. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.</p> <p>d. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.</p> <p>e. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.</p> <p>f. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.</p>		
--	--	--	--

4. Research and Reasoning

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. High-quality research requires information that is organized and presented with documentation</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. <ul style="list-style-type: none"> • Summarize and support key ideas • Demonstrate comprehension of information with supporting logical and valid inferences • Develop and present a brief (oral or written) research report with clear focus and supporting detail for an intended audience b. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. <ul style="list-style-type: none"> • Develop relevant supporting visual information (charts, maps, 	<p>Montessori Cultural Curriculum</p> <p>Supplemental: Research Projects, Drafting Process, Editing Process, Gathering Sources of Information, Publishing, Teacher directed and independent study, Group Presentations, Point of View Studies, Lit Groups,</p>	

	<p>graphs, photo evidence, models)</p> <ul style="list-style-type: none"> • Provide documentation of sources used in a grade-appropriate format 		
<p>2. Identifying and evaluating concepts and ideas have implications and consequences</p>	<p>Students Can:</p> <p>a. Draw evidence from literary or informational texts to support analysis, reflection, and research.</p> <ul style="list-style-type: none"> • Accurately explain the implications of concepts they use • Identify irrelevant ideas and use concepts and ideas in ways relevant to their purpose • Analyze concepts and draw distinctions between related but different concepts • Demonstrate use of language that is careful and precise while holding others to the same standards • Distinguish clearly and precisely the difference between an implication and consequence • Distinguish probable from improbable implications and consequences • Apply grade 5 Reading standards to literature (e.g., "Compare and contrast two or more characters, 	<p>Lit Groups,</p>	<p>DRA2</p>

	<p>settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]").</p> <ul style="list-style-type: none"> • Apply grade 5 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]"). 		
<p>3. Quality reasoning requires asking questions and analyzing and evaluating viewpoints</p>	<p>Students Can:</p> <ol style="list-style-type: none"> Ask primary questions of clarity, significance, relevance, accuracy, precision, logic, fairness, depth, and breadth Acknowledge the need to treat all viewpoints fair-mindedly Recognize what they know and don't know (intellectual humility) Recognize the value of using the reasoning process to foster desirable outcomes (intellectual confidence in reason) 	<p>Self-Reflection, Lit Groups, Work Cycle, Social and Emotional Learning, Cultural and Scientific Research Projects</p>	

Mathematics- 5th Grade

1. Number Sense, Properties, and Operations

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. The decimal number system describes place value patterns and relationships that are repeated in large and small numbers and forms the foundation for efficient algorithms</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Explain that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. <ul style="list-style-type: none"> • Explain patterns in the number of zeros of the product when multiplying a number by powers of 10. • Explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. b. Use whole-number exponents to denote powers of 10. c. Read, write, and compare decimals to thousandths. <ul style="list-style-type: none"> • Read and write decimals to thousandths using base-ten 	<p><i>Golden beads, golden mat, golden bead frame, stamp game, checkerboard</i></p> <p><i>Fractions are Decimals, Centesimal frame, Decimal board, classification of numbers</i></p> <p><i>Fraction skittles, Fraction bank, Percent finder,</i></p>	

	<p>numerals, number names, and expanded form.</p> <p>d. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p>e. Use place value understanding to round decimals to any place.</p> <ul style="list-style-type: none"> • Convert like measurement units within a given measurement system. • Convert among different-sized standard measurement units within a given measurement system. • Use measurement conversions in solving multi-step, real world problems. 		
<p>2. Formulate, represent, and use algorithms with multi-digit whole numbers and decimals with flexibility, accuracy, and</p>	<p>Students Can:</p> <p>a. Fluently multiply multi-digit whole numbers using standard algorithms.</p> <ul style="list-style-type: none"> • Find whole-number quotients of whole numbers. • Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. • Illustrate and explain calculations 	<p><i>Sieve of Eratosthenes, Pegboard, Table of Multiples, Table of Factors, Fraction Skittles,</i></p> <p>Adaptations/Supplemental Materials: Geometry insets (finding fractions), Venn Diagrams, Greatest Common Factor and Lowest Common Multiple works, Word</p>	

<p>efficiency</p>	<p>by using equations, rectangular arrays, and/or area models.</p> <ul style="list-style-type: none"> • Add, subtract, multiply, and divide decimals to hundredths. • Use concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. • Relate strategies to a written method and explain the reasoning used. <p>b. Write and interpret numerical expressions.</p> <ul style="list-style-type: none"> • Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. • Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. 	<p>problems, Wooden Cubing, Stamp Game Squaring, Abstract Practice</p> <p>(Houston Montessori Command Math)</p>	
<p>3. Formulate, represent, and use algorithms to add and subtract fractions with</p>	<p>Students Can:</p> <p>a. Use equivalent fractions as a strategy to add and subtract fractions.</p> <ul style="list-style-type: none"> • Use benchmark fractions and number sense of fractions to 	<p>Fraction Circles, Command Cards,</p> <p>Supplemental: Logic and Story problems, Number Properties: Commutative Property</p>	

flexibility, accuracy, and efficiency	estimate mentally and assess the reasonableness of answers: <ul style="list-style-type: none"> • Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions⁶ with like denominators. • Solve word problems involving addition and subtraction of fractions referring to the same whole. 		
4. The concepts of multiplication and division can be applied to multiply and divide fractions (CCSS: 5.NF)	Students Can: <ol style="list-style-type: none"> Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.⁹ In general, $(a/b) \times (c/d) = ac/bd$. <ul style="list-style-type: none"> • Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by 	Fraction Skittles, Fraction Circles, Fraction Insets, Euclid's Laws, Yellow Rectangles, Geometric Equivalence Cabinet, Compass Work, Protractor Work, Angle Work, Supplemental: Fraction Word Problems, Teddy Bears, Fraction Workbooks,	

	<p>multiplying the side lengths.</p> <p>d. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <ul style="list-style-type: none">• Interpret multiplication as scaling (resizing).• Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.• Apply the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. <p>e. Solve real world problems involving multiplication of fractions and mixed numbers.</p> <p>f. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.</p> <p>g. Interpret division of a whole number by a unit fraction, and compute such quotients.</p> <p>h. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions.</p>		
--	--	--	--

2. Patterns, Functions, and Algebraic Structures

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Number patterns are based on operations and relationships	<p>Students Can:</p> <ul style="list-style-type: none"> a. Generate two numerical patterns using given rules. b. Identify apparent relationships between corresponding terms. c. Form ordered pairs consisting of corresponding terms from the two patterns, and graphs the ordered pairs on a coordinate plane. d. Explain informally relationships between corresponding terms in the patterns. e. Use patterns to solve problems including those involving saving and checking accounts. (PFL) f. Explain, extend, and use patterns and relationships in solving problems, including those involving saving and checking accounts such as understanding that spending more means saving less (PFL) 	<p><i>Binomial Cube, Trinomial Cube, Table of Pythagoras, Calculation of Interest</i></p> <p>Supplemental: Plotting Coordinates on Coordinate Planes, Abstract Practice,</p>	

3. Data Analysis, Statistics, and Probability

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Visual displays are used to interpret data	Students Can: a. Represent and interpret data. <ul style="list-style-type: none">• Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$).• Use operations on fractions for this grade to solve problems involving information presented in line plots.	<i>Finger Charts, Pythagoras Table, Fraction Insets</i> Supplemental: Graphing Works, Measurement Tools	

4. Shape, Dimension, and Geometric Relationships

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
<p>1. Properties of multiplication and addition provide the foundation for volume, an attribute of solids.</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Model and justify the formula for volume of rectangular prisms. <ul style="list-style-type: none"> • Model the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes. • Show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. • Represent threefold whole-number products as volumes to represent the associative property of multiplication. b. Find volume of rectangular prisms using a variety of methods and use these techniques to solve real world and mathematical problems. <ul style="list-style-type: none"> • Measure volumes by counting unit 	<p>Volume Study, Solids Review, Prisms, Volume Cubes, Algebraic Volume Formulas, Blue Volume material, Graduated Cylinders, Beakers, Equivalence Cabinet</p> <p>Supplemental: Foss Kits, 3-D Geometric Nets, Area and Volume command cards</p>	

	<p>cubes, using cubic cm, cubic in, cubic ft, and improvised units.</p> <ul style="list-style-type: none"> • Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths. • Use the additive nature of volume to find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts. 		
<p>2. Geometric figures can be described by their attributes and specific locations in the plane</p>	<p>Students Can:</p> <ol style="list-style-type: none"> a. Graph points on the coordinate plane² to solve real-world and mathematical problems. b. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. c. Classify two-dimensional figures into categories based on their properties. <ul style="list-style-type: none"> • Explain that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. • Classify two-dimensional figures in 	<p>Supplemental: 3-D Geometric Nets, Plotting coordinates on a quadrant, Map work, Longitude/Latitude Works,</p>	

	a hierarchy based on properties.		
--	----------------------------------	--	--

Science – 5th Grade

1. Physical Science

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Mixtures of matter can be separated regardless of how they were created; all weight and mass of the mixture are the same as the sum of weight and mass of its parts	<p>Students Can:</p> <ul style="list-style-type: none"> a. Develop, communicate, and justify a procedure to separate simple mixtures based on physical properties b. Share evidence-based conclusions and an understanding of the impact on the weight/mass of a liquid or gas mixture before and after it is separated into parts 	<p><i>Elements Nomenclature, Element Knowledge, Classification of Matter Charts and Cards, Compare and contrast mixtures, Periodic Table, scientific process, hands-on experiments to create and separate mixtures and solutions, Stages of solids, liquids, and gases, Acid bases, Measurement of liquids, Density testing of water, Cooking lessons, and collaboration</i></p>	<p>Formative Assessments; Summative Assessments; Documentation; Observation</p>

2. Life Science

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. All organisms have structures and systems with separate functions	<p>Students Can:</p> <ul style="list-style-type: none"> a. Develop and communicate an evidence-based scientific explanation of the role of different organs or structures that are important for an organism's survival – in both plants and animals b. Analyze and interpret data to generate evidence that all organisms have structures that are required for survival in both plants and animals c. Create and evaluate models of plant and/or animal systems or parts 	Classification of living organisms, Animal Kingdom, Parts of Anatomy (cell study), Animal adaptations, habitat, populations, extinctions, and food web, Functions of internal body systems,	Formative Assessments; Summative Assessments; Documentation; Observation
2. Human body systems have basic structures, functions, and needs	<p>Students Can:</p> <ul style="list-style-type: none"> a. Develop and communicate an evidence-based scientific explanation regarding how humans address basic survival needs b. Analyze and interpret data to generate evidence that human systems are interdependent c. Assess further scientific explanations 	<i>Great River</i> , Internal Body Systems, Venn Diagrams, Human Adaptations, Skeleton Nomenclature, Anatomy models, food pyramid, research, and class discussions	

	<p>regarding basic human body system functions</p> <p>d. Create and evaluate models of human body systems and organs</p> <p>e. Compare and contrast a human system to that of another organism, and provide hypotheses about why the similarities and differences exist</p>		
--	---	--	--

3. Earth Systems Science

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Earth and Sun provide a diversity of renewable and nonrenewable resources	<p>Students Can:</p> <p>a. Develop and communicate a scientific explanation addressing a question of local relevance about resources generated by the sun or Earth</p> <p>b. Analyze and interpret a variety of data to understand the origin, utilization, and concerns associated with natural resources</p>	Solar energy, Pollutants, Fossil Fuels, Carbon Footprints, Ecology, Small group and individual research	Formative Assessments; Summative Assessments; Documentation; Observation

<p>2. Earth's surface changes constantly through a variety of processes and forces</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Analyze and interpret data identifying ways Earth's surface is constantly changing through a variety of processes and forces such as plate tectonics, erosion, deposition, solar influences, climate, and human activity b. Develop and communicate an evidence based scientific explanation around one or more factors that change Earth's surface 	<p><i>Layers of the Earth; Tectonic Plate;; Moving Mantle.;Drifting Continents; Spreading Oceans; Hot Spots; Collision, Subduction, and Accretion; Faulting and Folding; Earthquakes; Types of Waves; Volcanoes; Erosion; Ecology; and Tides</i></p>	
<p>3. Weather conditions change because of the uneven heating of Earth's surface by the Sun's energy. Weather changes are measured by differences in temperature, air pressure, wind and water in the</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Develop and communicate an evidence-based scientific explanation for changes in weather conditions b. Gather, analyze, and interpret data such as temperature, air pressure, wind, and humidity in relation to daily weather conditions c. Describe weather conditions based on data collected using a variety of weather tools d. Use data collection tools and measuring devices to gather, organize, and analyze data such as temperature, air pressure, wind, and humidity in relation to daily weather 	<p><i>Layers of the Atmosphere; Types of Clouds Nomenclature; The Water Cycle; Watershe;; Celsius Degrees; Weather based experiments; Scientific process; Weather instruments; Satellites; Weather maps; Global warming; Weather Stations; Climatic Zones; Erosion; Air Pressure; Wind;</i></p>	

atmosphere and type of precipitation	conditions	Lightning and Thunder	
--	------------	-----------------------	--

Social Studies – 5th Grade

1. History

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Analyze historical sources from multiple points of view to develop an understanding of historical context	<p>Students Can:</p> <ul style="list-style-type: none"> a. Identify different ways of dating historical sources to understand historical context b. Examine significant historical documents. Topics to include but not limited to the Stamp Act, the Declaration of Independence, and the Constitution c. Create timelines of eras and themes in North America from 1491 through the American Revolution d. Analyze cartoons, artifacts, artwork, charts, and graphs related to eras and themes in North America from 1491 through the American Revolution 	Black Ribbon, dating historical documents, timelines, historical method of inquiry, Mystery History	Formative Assessments; Summative Assessments; Documentation; Observation

<p>2. The historical eras, individuals, groups, ideas, and themes in North America from 1491 through the founding of the United States government</p>	<p>Students Can:</p> <ul style="list-style-type: none"> a. Identify and explain cultural interactions between 1491 and the American Revolution. Topics to include but not limited to the Columbian Exchange, the interactions between Europeans and native Americans in the 17th and 18th centuries, and the developing relationship between Europeans and enslaved Africans b. Identify and describe the significant individuals and groups of Native Americans and European colonists before the American Revolution c. Explain the development of political, social and economic institutions in the British American colonies d. Explain important political, social, economic, and military developments leading to and during the American Revolution 	<p>American Revolution- explorers Native Americans, European Colonists, American Colonies, enslaved Africans, Revolutionary War, Constitution, Bill of Rights, famous people</p>	
---	--	--	--

2. Geography

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Use various geographic tools and sources to answer questions about the geography of the United States	<p>Students Can:</p> <ul style="list-style-type: none"> a. Answer questions about regions of the United States using various types of maps b. Use geographic tools to identify, locate, and describe places and regions in the United States and suggest reasons for their location c. Locate resources in the United States and describe the influence of access on the development of local and regional communities 	biomes, physical maps, political maps, GPS	Formative Assessments; Summative Assessments; Documentation; Observation
2. Causes and consequences of movement	<p>Students Can:</p> <ul style="list-style-type: none"> a. Identify variables associated with discovery, exploration, and migration b. Explain migration, trade, and cultural patterns that result from interactions c. Describe and analyze how specific physical and political features 	Transportation, migration, immigration, trade, cultural patterns	

	<p>influenced historical events, movements, and adaptation to the environment</p> <p>d. Analyze how cooperation and conflict among people contribute to political, economic, and social divisions in the United States</p> <p>e. Give examples of the influence of geography on the history of the United States</p>		
--	--	--	--

3. Economics

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. Government and market structures influence financial institutions	<p>Students Can:</p> <p>a. Define a capitalist market economy</p> <p>b. Identify governmental activities that affect financial institutions and the economy at the local, state, and national level</p>	Local state, national economy, banks, Wall Street, stocks, capitalism, loans, interest, Young Ameritowne, Stock Market Game	Formative Assessments; Summative Assessments; Documentation; Observation

2. Use of financial institutions to manage personal finances (PFL)	<p>Students Can:</p> <ul style="list-style-type: none"> a. Identify different financial institutions b. Identify the products and services of financial institutions to include but not limited to: checking accounts, savings accounts, investments, and loans c. Compare and contrast financial institutions, their products, and services 	Checking account, savings, debit cards, investments, loans and interest, financial goals, Young Ameritowne	
--	--	--	--

4. Civics

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools	Measuring Methods And Tools
1. The foundations of citizenship in the United States	<p>Students Can:</p> <ul style="list-style-type: none"> a. Describe and provide sources and examples of individual rights b. Give examples of group and individual actions that illustrate civic ideals in the founding of the United States. Ideals to include but not limited to freedom, rules of law, equality, civility, cooperation, respect, responsibility, and civic participation 	Rights, responsibilities, reason for American colonies, process of citizenship	Formative Assessments; Summative Assessments; Documentation; Observation

	<ul style="list-style-type: none"> c. Explain the reasons for the settlement of the American colonies d. Define the criteria and process for becoming a citizen 		
2. The origins, structure, and functions of the United States government	<p>Students Can:</p> <ul style="list-style-type: none"> a. Identify political principles of American democracy and how the Constitution and Bill of Rights reflect and preserve these principles b. Explain the historical foundation and the events that led to the formation of the United States constitutional government. Topics to include but not limited to the colonial experience, the Declaration of Independence, and the Articles of Confederation c. Explain the origins, structure, and functions of the three branches of the United States government and the relationships among them d. Describe how the decisions of the national government affect local and state government 	State and federal government, Bill of Rights, Constitution, Declaration of Independence, Articles of the Confederation	