

The curriculum map is separated into columns and rows. Vertically, each subject occupies its own row and planes of development are read horizontally across the columns. The map is straightforward and definitive - children are not. At MSMV, we meet each child’s individual academic need. From a child’s perspective, these rows and columns are not separate - but intertwined into one whole life.						
Planes of Development	<p><b>THE FIRST PLANE: BIRTH TO AGE 6</b> The Absorbent Mind</p> <p>From birth through approximately age 6, humans experience a period of intense mental activity that allows one to “absorb” learning from one’s environment without conscious effort, naturally and spontaneously. This is the most critical period for the development of character and formation of the intellect. Personality traits are formed such as:</p> <ul style="list-style-type: none"><li>•<i>good work habits</i></li><li>•<i>ability to make choices</i></li><li>•<i>self-discipline</i></li><li>•<i>independence</i></li></ul>	<ul style="list-style-type: none"><li>•<i>care of and respect for others and the environment</i></li><li>•<i>willingness to follow rules and create social order</i></li></ul> <p>The child’s innate absorbent mind is characterized by natural learning tendencies--the urge to explore, to learn with their hands and physically move objects, and to repeat actions for mastery of skills--allowing the child to grow from dependency to independence.</p> <p>Montessori 3-6 classrooms are scientifically designed to promote character development in an atmosphere that nourishes the human spirit and allows the unfettered natural formation of the intellect. Children enjoy the learning experience, which spurs them on, and sets the stage for life-long learning.</p>	<p><b>THE SECOND PLANE: AGES 6-9</b> Reasoning and Abstraction</p> <p>The period from ages 6 to 12 is one of moral and intellectual growth, characterized by an expansive imagination and strong desire for social collaboration. This time can be called “the age of reasoning” for the child’s strong urge to know “why”, and to discover those reasons personally, through experience, research, and reflection. Key attributes formed in this period include:</p> <ul style="list-style-type: none"><li>•<i>development of the individual’s personal conscience</i></li><li>•<i>understanding of how one’s chosen actions can impact</i></li></ul>	<p><i>others</i></p> <ul style="list-style-type: none"><li>•<i>acceptance of one’s own responsibility for these choices and actions.</i></li></ul> <p>Children continue to learn experientially, as in the previous period, but through the imagination access increasingly abstract concepts.</p> <p>Montessori Elementary classrooms provide an expansive curriculum and allows social interaction in a collaborative atmosphere of community building and joyful learning. Children learn to independently find the information they need to educate themselves on a variety of topics. Learning is a social activity and designed to be fun.</p>	<p><b>THE THIRD PLANE: Adolescents</b> Construction of Social Self and Emotional Independence</p> <p>The Third Plane is also known as Adolescence. Through the observations of Dr. Montessori, we know that the adolescent is asking universal questions of identity and belonging: Who am I in relation to human society? Where do I fit in to this society? How can I serve other members of this society? The adolescent coursework is designed to give students a sense of purpose, identity and belonging.</p> <p>They learn:</p> <ul style="list-style-type: none"><li>•<i>what it means to contribute to their community</i></li><li>•<i>the need for cooperation with adults and peers in relation to the rest of the world</i></li></ul>	<ul style="list-style-type: none"><li>•<i>an understanding of commerce as a necessary aspect of community life.</i></li></ul> <p>The child has a strong need for self-expression and the freedom to collaborate spontaneously, and for deepened understanding of academic subjects within meaningful context.</p> <p>Montessori Adolescent classrooms prepare those in this last stage of childhood for adult life by meeting the child’s social and emotional needs, which allows further academic growth.</p>
Assessment	<p><b>THE FIRST PLANE</b></p> <p>The Montessori materials are designed with a “control of error”, which means the child receives instant feedback while working, allowing recognition, correction, and learning from mistakes without adult assistance. Putting control of the activity in the child’s hands strengthens self-esteem, self-motivation, and learning. Montessori teachers are trained to observe the cognitive, emotional, social, and behavioral needs of children. Scientific Observation does not mean that a teacher simply watches a child. It means paying close attention to the whole child’s development by constantly assessing the children’s position along their own arcs of developmental and educational understanding, and adjusting practices to best meet them when they’re ready to learn. Teachers assess students and plan for next steps continually, day-to-day. In a Montessori environment</p>	<p>the teacher works in concert with the children to drive the curriculum, constantly assessing:</p> <ul style="list-style-type: none"><li>• <i>if the content is resonating with each child, and how;</i></li><li>• <i>where each child’s own interests resides and how to support this self-discovery</i></li><li>• <i>in what other ways content can be shared with children so that learners of all styles can find meaning in their work.</i></li></ul> <p>Scientific Observation is the cornerstone of our assessments. Teachers observe and record reception of lessons, on follow-up work, and on self-directed student explorations, monitoring progress along the way to check for mastery and understanding.</p>	<p><b>THE SECOND PLANE</b></p> <p>Scientific Observation remains the primary method of assessment in the Elementary program (see 1st Plane). Teachers observe children interacting with each other, they observe their work style, their learning style, and their habits of mind.</p> <p>Montessori materials continue to provide control of error, and the collaborative nature of children in this period provide ample opportunity for peer guidance and assessment. Teachers also collect data in more familiar ways: reception to lessons and on follow-up work, and from on-going portfolio development derived from teacher-led presentations and self-directed student explorations. This is Formative Assessment, progress monitoring along the way to check for mastery and understanding.</p>	<p>Teachers look to large cumulative projects that demand skills from multiple content areas to demonstrate how children are connecting the many concepts woven together in an extended period of time. Such Summative Assessment gives a measure of a child’s growth through the year. Toward the end of the 6-9 three-year curriculum, MSMV also administers the IOWA Test of Basic Skills to assist the child in understanding his/her best test taking self, practice taking standardized tests as a preparation for later educational experiences, and provide individual parents with an overview of their child’s performance at the time of testing. Test data is combined with the more comprehensive records and working knowledge of the students from teachers to inform the next level teachers about a child’s strengths and areas of challenge.</p>	<p><b>THE THIRD PLANE</b></p> <p>Again, in the Adolescent environment, teachers use Scientific Observation, Formative Assessment, and Summative Assessment as a key assessment tools. Daily interactions, student/teacher dialogues, and observation of peer interactions inform teachers of the student’s position on his or her individual developmental and educational arc, as well as the emotional well-being and growth of students in this period.</p> <p>Because the child in the Adolescent period begins to reflect on themselves and their accomplishments in comparison to others, teachers begin to offer percentage grades for student work. This helps to introduce the student to the</p>	<p>process and criteria that will likely be used for grading in their next school. Developmentally appropriate assessments for the adolescent child include rubrics, portfolios, presentations, projects, quizzes, end of unit knowledge assessments, and standardized testing such as IOWA tests and the National Latin Exam.</p>
Mathematics	<p><b>THE FIRST PLANE</b></p> <p>Developing a Mathematical Vocabulary</p> <p>Novel hands-on Montessori materials fill the 3-6 classrooms, which draw the child to investigate mathematical ideas. Through sensorial exploration, children identify geometric shapes, symmetry, patterns and other concepts which expand mathematical comprehension. Sandpaper Numerals, Teen Boards, Ten Boards, and the Hundred Board assist understanding of sequencing and numeral recognition. Montessori Golden Bead materials introduce the decimal system and place values. With manipulative materials, children are exposed to the four operations.</p>	<p>Children create number sentences from operational concepts, and investigate place value by performing operations with the Golden Beads and other materials. Multiplication is presented through linear counting of the bead chains and their representation of the squaring and cubing of one through ten. Concepts of measurement explored include time, money, comparison, estimation, and fractions. Children learn to record their ideas with drawings, charts, maps, graphs, and numerals. Basic problem-solving skills are introduced through real life situations such as cooking and sharing.</p>	<p><b>THE SECOND PLANE</b></p> <p>To transform into independent problem-solvers, Montessori children build a foundation of understanding concepts using concrete materials which leads to abstract thinking. Math is used across the Elementary curriculum as children learn to express their understanding of their surrounding world. Mathematical operations, number sense, patterns, pre-algebra, measurement, geometry and probability are explored and specifically applied, making use of this period of reasoning and imagination, which leads to abstraction. Children can then justify their mathematical understanding.</p> <p><b>6-9 Program:</b> <i>Understanding of Operations</i> • <i>Introduction to the history of numbers/numeration</i> • <i>Hierarchy Lesson (to 1,000,000,000)</i> • <i>Understanding of Money</i> • <i>Measurement-concept, history</i> • <i>Laws</i></p>	<p><i>of Arithmetic</i> • <i>Introduction to Fractions</i> • <i>Study of Multiples, Divisibility, Factors</i> • <i>Intro to Decimal Fractions</i> • <i>Squaring and Cubing</i> • <i>Graphs</i> • <i>Problem-solving Skills and Logical Reasoning</i> • <i>Geometry: concepts of Point, Line, Surface, Solid Study of Angles, Triangles</i> • <i>Congruent, Similar, Equivalent Figures, Volume, Area</i></p> <p><b>9-12 Program:</b> <i>The Story of the History of Numbers/Numeration (including the history of measurement)</i> • <i>Whole Numbers and Numerations</i> • <i>Multiples</i> • <i>Properties - commutative, associative, &amp; distributive</i> • <i>Rules of Divisibility</i> • <i>Fractions</i> • <i>Decimals</i> • <i>Ratio and Percent</i> • <i>Statistics and Probability</i> • <i>Algebraic Ideas</i> • <i>Squares and Cubes</i> • <i>Square Roots</i> • <i>Order of Operations</i> • <i>Working with Integers</i> • <i>Problem-solving and Logical Reasoning</i> • <i>Geometry: Studies of Triangle, Quadrilateral, Polygon</i> • <i>Measuring and Bisecting Angles</i> • <i>Pythagorean Theorem</i> • <i>Circles</i> • <i>Volume and Area</i> • <i>Transformations</i> • <i>Geometric Construction</i></p>	<p><b>THE THIRD PLANE</b></p> <p>Expanding Mathematics through Meaningful Context</p> <p>Adolescent students have reached abstraction and can apply the mathematical concepts they have learned in meaningful contexts. The 3rd Plane is the period in which further development of the mathematical mind is underscored by the use of math in day-to-day life as well as continued study. It is a logical progression from the achievements attained in the Elementary program. The Adolescent develops an understanding of the history of the mathematical mind and the evolution of theory through study of Euclid and other ancient mathematicians. Geometry becomes and interdisciplinary part of problem solving and projects.</p>	<p>12-15 Program: <i>History of Mathematics, Use of Variables</i> • <i>Order of operations</i> •<i>Probability</i> •<i>Variables and equations; solving equations</i> • <i>Polynomials</i> • <i>Graphing</i> •<i>Translations</i> • <i>Patterns leading to division, Integer division</i> • <i>Ration proportions</i>• <i>Application of Mathematics - Small Business Enterprise, the Macro-Economy, Research, Stock Market Simulation, Cooking, Art, Music, Technology, Fundraising, Timelines, Time Management</i></p>
Language Arts	<p><b>THE FIRST PLANE</b></p> <p>The First Plane is the sensitive period for development of language and communication, which is marked by expanding auditory discrimination, increasing vocabulary, comprehension, critical thinking, and fluency. In the 3-6 classroom, language arts start with spoken language with lessons to practice and simulate social situations, enrichment of vocabulary, development and refinement of conversation skills. The simultaneous development of writing and reading, as well as appreciation of literature, is engaged through stories, songs, poems, creative movement, drawing, painting, writing and illustrating, and story dictation. Sound games and Montessori language materials develop phonological awareness.</p>	<p>Preparation of the hand for writing occurs by use of Montessori materials capitalizing on the three-finger grip across the curriculum. Cursive handwriting is introduced, as it aligns with the natural movement of the child’s hand at this age. Print recognition develops as children are exposed to the printed word, and children transition naturally to manuscript.</p> <p>Children’s developing interest in reading and writing leads to more focused instructions--letter recognition, consonant and vowel sounds, association of sounds and letters, sound blending and segmenting, basic punctuation, and handwriting practice.</p>	<p><b>THE SECOND PLANE</b></p> <p>The Elementary Language Arts program addresses this period of imagination and reasoning by encouraging the use of language as a method to express imagination, to assist in research about the environment, and to refine communication in their learning community.</p> <p>Reading: Students are exposed to reading as a method for learning and for pleasure, for they are encouraged to follow their interests, and all genres are available for children to explore. The Elementary environment contains many reading opportunities across the curriculum, and reading aloud, reading silently, and listening to others are all freely available. Analytical and critical-thinking skills are promoted through literature circles, as children learn to connect liter-</p>	<p>ary themes with real life experience through self-reflection and respectfully acknowledging peer viewpoints.</p> <p>Communicating: Oral presentations and interactions in community meetings help develop and refine expressive and receptive language skills, expanding their vocabulary for giving accounts of learning experiences, emotions, and opinions.</p> <p>Writing: Writing studies capitalize on the child’s interest in classification and rules of order, with a deepened study of the parts of speech. Montessori materials and symbols are used to connect the imagination with the mechanics of language. They practice spelling skills across the integrated Montessori curriculum. Students explore many styles as they learn organization, voice, drafting, editing, and presentation.</p>	<p><b>THE THIRD PLANE</b></p> <p>Application of previously learned concepts within the context of written work and the reading of diverse literature and articles. It is also reinforced via the study of Latin at this level.</p> <p>Context clues, synonyms, antonyms, affixes, roots, metaphors similes--figurative language abbreviations, connotation and denotation--use of dictionaries, thesaurus, glossaries and technological tools.</p> <p>Across the curriculum, students engage in process writing with several drafts of a single work edited and evaluated</p>	<p>until a publishable product is constructed (prewriting, drafting, editing, revising, and publishing). Students write a term paper on a topic of their choice each year, according to MLA with footnotes and bibliography. Literature circles allow for the Adolescent student to express views and examine ethical concerns. Literature study includes novels, biographies, essays, short stories, historical documents, poetry, drama. Integration of these pieces within the humanities and science studies enriches the student’s understanding of time, place and the dynamics</p>
Cultural Studies	<p><b>THE FIRST PLANE</b></p> <p>In the 3-6 classroom, they compare, classify, hypothesize, experiment, analyze and draw conclusions as they study living and nonliving things. Children begin to understand the interrelatedness of people, places, and time as they create personal timelines and discuss personal and group events from the past, present, and future. Puzzle maps, international artifacts, and visitors introduce children to world cultures. Social customs are reinforced through lessons in grace and courtesy.</p> <p>3-6 Cultural Studies include: <i>Life Sciences and Life Cycles</i> • <i>Living/Nonliving</i> • <i>Plants/Animals</i> • <i>Vertebrates/Invertebrates</i> • <i>Botany</i> • <i>Magnetism</i> • <i>States of Matter</i> • <i>Buoyancy</i> • <i>Volume</i> • <i>Weather</i> • <i>Time (calendar, seasons, intro to clock)</i> • <i>Intro to past/present/future</i> • <i>Personal Timelines</i> • <i>Physical Geography</i> • <i>Cultural Geography</i></p>	<p><b>THE SECOND PLANE: AGES 6-9</b></p> <p>The cultural studies are the backbone of the the Elementary curriculum, as it is through cultural studies that the other curricular areas of language arts and math are integrated. As the Elementary child develops from concrete understanding to abstract thinking, they imagine the world around them, focus on how it works and why things are the way they are. Students explore personal interests with teacher guidance through long-term research projects and the learning cycle of inquiry. They form hypotheses and conduct experiments. Research projects typically result in final products taking many different forms that demonstrate student understanding. Field trips enhance cultural studies. 6-9 students develop a sense of their place in the universe through development of a sense of time (past, present, future), a sense of space (geography, astronomy), and a sense</p>	<p>of systems and cycles (biology, chemistry, physics, history, and economics).</p> <p>In addition, 6-9 Cultural Studies also include: <i>Zoology, Botany, Biology</i> • <i>Introduction to Vital Functions</i> • <i>Introduction to the Five Kingdoms</i> • <i>Classification System</i> • <i>Geology, Weather, Biomes</i> • <i>The Story of the Universe</i> • <i>Functional, Political, and Human Geography</i> • <i>Physical Sciences</i> • <i>BC/AD Timelines</i> • <i>Timeline of Life</i> • <i>Human Anatomy</i></p>	<p>mathematicians, and artists, which helps them begin to see the interrelatedness between these different disciplines. This helps them further make sense of the world around them.</p> <p>Utilizing the needs of humans as guides, 9-12 students explore what it means to be human, what culture is, and how the world works. Field trips continue to enhance studies, with the addition of overnight trips to expand independence during this period of broadening understanding of the world.</p> <p>9-12 Cultural Studies include: <i>Chemistry</i> • <i>Matter and Energy</i> • <i>Zoology</i> • <i>Human Anatomy</i> • <i>Botany</i> • <i>Taxonomy</i> • <i>Astronomy</i> • <i>Functional Geography</i> • <i>Political Geography</i> • <i>Human Geography</i> • <i>Timeline of Early Humans</i> • <i>Study of Civilizations</i> • <i>American History</i></p>	<p><b>THE THIRD PLANE</b></p> <p>The work covered in the Elementary Life Sciences is once again visited within the reality of occupations, application, more in-depth study and problem solving. The pedagogy of place drives the lessons and problem solving relative to the areas of environmental science, chemistry, biology, botany, astronomy, weather, geology, genetics, physics, human physiology, and gardening. As part of the construction of the Social Self, students explore and discuss ethical issues relating to each area of study, and inquiry into what makes society function. Cross-curricular study is employed through language arts, Latin, math, and history. In preparation for high school history requirements, students study the formation of the United States from the establishment of the colonies through the Civil War. Cultural studies are enhanced by field trips and visits with experts. Application of these studies are provided through the Small Business</p>	<p>Enterprises.</p> <p>Adolescent study of scientific occupations offered: <i>Soil, Forest, and Water Study</i> • <i>Geology, Topography, Biomes</i> • <i>Human Physiology, Genetics</i> • <i>Astronomy, Weather</i> • <i>History of USA - colonial through Civil War</i> • <i>Classical Era - Roman period</i> • <i>Botany, Gardening</i> • <i>History of the Earth, Plate Tectonic</i> • <i>Ethical Issues associated with all of the above topics</i></p>
Music	<p><b>THE FIRST PLANE</b></p> <p>In the 3-6 environment, children are exposed to music through singing and singing games with movement. The voice is a child’s natural instrument, and through singing games children experience and absorb simple melodies, as well as develop their abilities to feel steady beat, chant rhymes, and to discriminate loud or soft, fast or slow, high</p>	<p>pitches or low pitches. Montessori sensorial materials help prepare and refine auditory perception for music appreciation, musical comparatives, and development of the inner musical ear. Music and movement can provide children with a way to express their own unique spirits. The art of performance is introduced through sharing music with friends and family.</p>	<p><b>THE SECOND PLANE</b></p> <p>Developmental characteristics of the Elementary child include the enjoyment of ensemble and group musical experiences. Elementary students listen to various musical pieces; learn about composers and their works; study musical styles through history and from other cultures; and experience musical expression and collaboration through</p>	<p>song-writing. Review and understanding of musical theory supports these collaborations. Students sing together as a group or in small groups. Performance techniques are explored through student-generated musical presentations such as plays and concerts shared with friends and family.</p>	<p><b>THE THIRD PLANE</b></p> <p>Typically, Adolescent students have reached a developmental sensitivity to peer opinion (self-consciousness) and so performance and singing holds less interest. The music curriculum centers on American music history, the great composers, and exposure to music from other cultures as related to literature studies. Students also venture out into</p>	<p>the community to experience vocal and instrumental performances of their choice outside of class time, and share those experiences with the class.</p>
Art	<p><b>THE FIRST PLANE</b></p> <p>In the 3-6 classroom, introductory art materials provided allow children open exploration to express themselves creatively, communicate ideas, and represent concepts learned. More sophisticated materials and techniques are introduced as the child masters skills and hand control. Art from other cultures and works from famous artists are introduced.</p>	<p><b>THE SECOND PLANE: AGES 6-9</b></p> <p>Lower Elementary students begin to understand that art is ubiquitous; that each artist/creator has an individual style; and that almost any material can become art media. The work and stories of artists and art history are explored. Through observation, repetition, and experimentation, students begin the development of art skills in a variety of</p>	<p>media. Art studies are integrated into cultural and language art studies. An art specialist works with students once a week to introduce new techniques and ideas.</p>	<p><b>THE SECOND PLANE: AGES 9-12</b></p> <p>As Upper Elementary students practice a variety of techniques and media, they become aware that knowledge and skill increase confidence in creating art. They continue to explore art and artists throughout history, and experiment and pursue their own ideas and concepts. Opportunities in 3-dimensional art and photography expand students’ reper-</p>	<p>toires. Art studies are integrated into cultural and language art studies. An art specialist works with students once a week to introduce new techniques and ideas.</p>	<p><b>THE THIRD PLANE</b></p> <p>Art in the Adolescent period should not be thought of as proper training but rather a means of giving expression to individual aesthetic feeling with special reference to handwork and to the learning of modern techniques. Using a variety of media are part of the students’ experiences of choice.</p>
Physical Education	<p><b>THE FIRST PLANE</b></p> <p>In the 3-6 environment nutrition, mindfulness, and self-care are introduced to begin the development of healthy habits for life. Balance, self-control, strength, and flexibility are</p>	<p>developed through Montessori lessons and yoga practice. Kindergarteners receive focused weekly instruction on building gross motor skills and coordination (running, throwing, kicking, catching, swimming). Montessori is a</p>	<p>non-competitive environment where effort and perseverance are valued over achievement.</p>	<p><b>THE SECOND &amp; THIRD PLANES</b></p> <p>For the Elementary and Adolescent students, Phys Ed focuses on expressive and effective movement and fitness for a lifetime. Sportsmanship, fair play, cooperation,</p>	<p>communication, self-image, and respect are emphasized. Health concepts covered include nutrition, the importance of exercise, the dangers of drugs and alcohol, prevention of injuries. Focused instruction on a variety of activities is</p>	<p>provided by specialists weekly and may include individual or team sports, or recreational movement activities (dance, yoga).</p>