# Elementary 2 Curriculum Outline

**Rochester Montessori School**

*"Our students are equipped in their whole being in their adventure of life, accustomed to the free exercise of will and judgment, illuminated by imagination and enthusiasm."* – Maria Montessori

### *Introduction*

The Rochester Montessori School elementary program is organized into two three-year cycles: E1 for the first through third grades and E2 for the fourth through sixth grades. As in the Children's House program, multi-age groups offer lasting benefits. By working closely with children for a period of three years, teachers know each child's learning style, strengths, interests, and capabilities. Teachers can then offer more effective lessons for meeting each child's needs. Children form lasting friendships as they and their teachers develop a strong sense of community.

The classroom teachers are both instructors and guides in support of the program's academic and developmental goals. The teachers provide daily lessons that are appropriate for each child's progress and development.

Learning to become independent thinkers and self-directed are two developmental goals of the elementary program. We strive to understand and then challenge each child according to his or her developmental needs and capabilities. Children learn to become responsible for their own learning as they make daily decisions and choices in our child-centered classrooms. Becoming mindful of the consequences of choice is an essential habit for success in life.

### *The Classrooms*

Our elementary classrooms are exciting places of learning because the children are active participants. At this age, children enjoy learning with others. You are likely to see children working together to parse sentences, reduce fractions, or research life in Colonial America. Learning to collaborate is an important part of the learning process.

The elementary child's learning activities occur both within the classroom and also in libraries, museums, and other sites that contain the information they seek as they satisfy their hunger for knowledge and understanding.

Experiential learning takes place in each classroom in a variety of formats as children explore anthropology, biology, botany, chemistry, earth science, economics, geography, geometry, history, language, literature, mathematics, psychology, sociology, technology, and more.

### *The Great Lessons*

Topics from these subjects are presented to E1 students in an ecological, holistic, and integrated format known as The Great Lessons. Follow up lessons, stories, individual studies, research, and projects occur during the entire six years of the elementary program, both E1 and E2. Elementary children respond well to the classroom stories told about the history of the universe and humanity. These stories ignited the children's interest in the details of science, math, social science, and language. The stories further emphasize the connections between the different areas of study.

The intent of the Great Lessons is to give a "cosmic" perspective of the Earth and humanity's place within it. The five Great Lessons concern how the world came to be, the development of life on Earth, the story of humankind, the development of language and writing, and the development of mathematics.

### *The Curriculum*

Our curriculum includes lessons in spelling, mathematics, grammar, sentence analysis, creative and expository writing, and research skills. Elementary students also study the worlds of science and technology. They read and discuss literature, history, world geography, economics, anthropology, and the organization of human societies. Many areas of study are open-ended, allowing each child to continue pursuing related ideas and personal interests.

Daily lessons build on past learning and respond to the children's expanding knowledge and growing conceptual understanding. As children become more able to reason abstractly, they naturally become independent thinkers. By first using concrete learning materials, children develop both a strong foundation and a deep understanding of concepts, ideas, and skills.

For example, children use the classroom materials in a scientific investigation to describe patterns and define relationships. As they collect information and interpret data, they begin to develop an understanding of independent and dependent variables. When they later study Algebra in the Middle School program, they will extend their earlier science experiences into multivariate graphing and linear equations. These experiences further extend into causal and statistical reasoning as they research and study a myriad of topics such as health, nutrition, political decisions, and social issues.

During the elementary school years, children do learn without the hands-on materials because they now understand the abstract ideas the materials represent. Abstract ideas should not be merely told; for lasting learning, ideas must be discovered. Academic rules and laws are points of arrival rather than starting points.

Although the scope of the elementary curriculum is vast, it is organized as a spiral curriculum. Students are repeatedly exposed to many subjects that are integrated and connected. With each repetition, children make new discoveries and see connections more clearly. This process enables conceptual formation and deeper understanding, rather than memorizing facts that are quickly forgotten. The integrated curriculum also promotes the development of life-long learning habits such as persistence, reasoning, problem-solving, communication, time-management, and self-reliance.

*The following pages outline key topics, concepts and skills that form the E1 curriculum. This Rochester Montessori School curriculum outline is not a complete and final document. It is ever changing as we work to better meet the needs of the children.*

| ***Curriculum Area*** | ***Lessons, Activities and Materials*** | ***Expectations*** |
|---|---|---|
| Listening and Speaking | Large Group<br>▪ teacher presentations<br>▪ writer's workshop<br>▪ daily class discussion and presentation of writing<br>▪ Writer's Café<br>▪ Poetry reading<br>Small Group<br>▪ teacher presentations<br>▪ research projects<br>▪ daily interactions with peers | The child will develop skills in attending to, responding to, and analyzing oral communications.<br><br>The child will develop fluency in using oral language to communicate effectively, accomplishing a variety of purposes such as informing, expressing, persuading, and entertaining. |
| Reading | Book reviews<br>Literature circles<br>Genres of literature<br>▪ novels<br>▪ short stories<br>▪ poetry<br>▪ Junior Great Books<br>▪ Book reports, short stories, biographies, persuasive essays, poetry<br>Magazines and journals<br>Reference materials for research<br>Library skills | The child will develop an appreciation for a variety of literary forms, develop vocabulary, and apply appropriate comprehension strategies to different texts. |
| Word Study | Word meaning and usage<br>Capitalization and punctuation<br>Writing paragraphs<br>Topic sentences<br>Outlining<br>Spelling<br>Thesaurus and dictionary use | The child will understand correct expression and how words are built. |
| Grammar | Functions of words (9 parts of speech)<br>Types of sentences<br>▪ complex and compound<br>Pronouns<br>▪ case study<br>▪ singular indefinite<br>Agreement<br>▪ subject and verb<br>▪ advanced verb tense studies<br>▪ antecedent and pronoun<br>Montessori Materials<br>grammar symbols<br>Study of the verb<br>▪ all tenses | The child will understand correct expression and how words are built. |

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| Grammar | ▪ mood (indicative, imperative and subjective)<br>▪ voice (active and passive)<br>▪ transitive/Intransitive<br>Verbals<br>▪ infinitives, gerunds, and participles<br>Clauses<br>▪ subordinate, independent, adjective, adverb, and noun<br>Phrases<br>▪ Prepositional, infinitive, gerund, and participle | |
| Writing | Journaling<br>Book reviews<br>Research<br>▪ note taking and paraphrasing<br>Paragraph writing<br>▪ descriptive, narrative, explanatory, persuasive<br>Bibliographies<br>Editing marks<br>Punctuation and capitalization<br>Short stories<br>Figurative language<br>Writing process<br>▪ prewriting (effective note taking, outlining, webbing ideas, expressing ideas clearly)<br>▪ drafting<br>▪ revising<br>▪ editing<br>▪ publishing<br>Weekly spelling lists<br>Cursive writing<br>6th grade senior project | The child will develop skills in writing effectively for a variety of purposes, modes, and audiences.<br><br>The child will apply conventions of writing to produce effective communication. |
| Sentence Analysis/<br>Sentence Diagramming | Sentence analysis and diagramming<br>Subject and predicate<br>Direct object<br>Prepositional phrases<br>Indirect object<br>Linking verbs<br>Predicate noun and adjective<br>Commands<br>Questions | The child will understand correct expression; specifically, how sentences are constructed. |

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| Sentence Analysis/<br>Sentence Diagramming | Compound subject/predicates<br>Appositive<br>Direct address<br>Attributive adjective<br>Objective compliment<br>Montessori Materials<br>▪ sentence analysis charts | |
| Mathematics<br>Numbers/Operations | Memorization of facts<br>Prime numbers<br>Factoring<br>▪ greatest common factor<br>▪ least common multiple<br>Single, double, and triple digit multiplication<br>Cross multiplication<br>Single, double, and triple digit division<br>Squares and cubes of numbers<br>Square and cube roots of numbers<br>Cubing of bi- and trinomials<br>Negative and positive integers<br>Methods for solving word problems<br>Four operations using decimals, fractions, and percents<br>Ratio and proportion<br>Probability<br>Scale<br>Calculating rate, speed, and distance<br>Graphs and graphing functions<br>Recording data using spread sheets<br>Systems of bases other than ten<br>Algebraic notation/order of operations | The child will apply knowledge of the basic operations to integers, fractions, and decimals, moving away from the use of concrete materials to abstract reasoning. |
| Order of Operations | Montessori Materials<br>▪ colored bead bars<br>▪ hierarchical materials<br>▪ bead frame<br>▪ peg board<br>▪ addition and subtraction charts<br>▪ multiplication board<br>▪ checkerboard (multiplication)<br>▪ division board<br>▪ test tubes (division)<br>▪ multiplication and division charts<br>▪ binomials<br>▪ squaring and cubing materials<br>▪ power of ten | The child will apply knowledge of the basic operations to integers, fractions, and decimals, moving away from the use of concrete materials to abstract reasoning. |
| Geometry | Similar, equivalent, and congruent figures | The child will develop measurement concepts and |

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| Geometry | Geometry nomenclature<br>Circles<br>▪ relationship of straight line and circle<br>▪ circumference<br>▪ pi<br>▪ area<br>Classification of triangles and quadrilaterals<br>Perimeter and circumference<br>Area, surface area, and volume<br>▪ prisms, pyramids, cylinder, cone, and other polyhedrons<br>Constructions of geometric solids<br>Mass<br>Tessellations<br>Polygons<br>Pythagorean Theorem<br>Lines and angles<br>Montessori Materials<br>▪ geometric solids & cabinet<br>▪ constructive triangle boxes<br>▪ geometry stick boxes<br>▪ geometric plates<br>▪ Pythagorean materials<br>▪ measuring instruments<br>▪ volume materials | skills using metric and standard units.<br><br>The child will explore properties and relationships of geometric shapes and their applications. |
| Fractions, Decimals, Ratio, Percentages | Equivalent fractions<br>Mixed fractions<br>Relationships between fractions, decimals, and percents<br>Reducing fractions<br>Addition and subtraction with fractions<br>Multiplication and division with fractions | The child will used concrete materials to develop knowledge of fractions and use this to solve problems abstractly. |
| Probability and Statistics | Data collection<br>Interpretation and construction of charts and graphs using collected data<br>Averages<br>Probability and statistics in problem solving | The child will use probability and statistics to collect, interpret data, and solve problems. |
| Other | Graphs and charts<br>Estimation with whole numbers and decimals<br>Simple algebraic equations<br>Word problems<br>Problem solving | The child will gain experience in solving problems by selecting and matching strategies to given equations. |

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| Geography | Map and globe reading<br>Longitude and latitude<br>Land and water features<br>State & capitals<br>United States regions<br>▪ Minnesota counties<br>World regions – biomes<br>Work of air and water<br>Weather currents<br>Economic geography<br>Research<br>Imaginary island project<br>Montessori Materials<br>▪ landform maps | The child will develop an understanding of the physical Earth: land and water |
| History | Eons, eras, periods, and epochs<br>Archaeology, fossils<br>Civilization timelines<br>Early humans<br>Ancient Civilizations<br>▪ China<br>▪ Egypt<br>▪ Greece<br>▪ Rome<br>Middle Ages<br>Renaissance<br>Explorers<br>Native Americans<br>European settlement of North America<br>Westward expansion<br>American revolution<br>▪ Declaration of Independence<br>Civil War<br>World Wars<br>Civil Rights<br>Elections and government<br>Minnesota history<br>Current events<br>Montessori Materials<br>▪ timeline of Life<br>▪ various historic timelines | The child will understand the development of civilizations and cultures. |
| Biology | 5 kingdoms<br>Classification activities<br>Taxonomy and nomenclature<br>Vital functions of plants and animals<br>Microscope studies<br>▪ plant and animal cells<br>DNA and genes | The child will explore and develop an understanding of how plants and animals function. |

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| Biology | Plant experiments<br>Ecosystems and environment<br>▪ water cycle<br>▪ nitrogen cycle<br>Studies of the human body<br>Health<br>Montessori Materials<br>▪ classification card sets<br>▪ nomenclature card sets | |
| Physics and Chemistry | Topics in Math and Science experiments<br>Atoms, molecules, and matter<br>States of matter<br>Electromagnetic spectrum<br>Periodic table of the elements<br>Chemical reactions<br>▪ states of matter<br>Electricity and magnetism<br>Friction<br>Simple machines and calculations<br>Rocks and minerals<br>Light<br>Sound<br>Graphing data<br>Science fair – scientific method | The child will develop an understanding of the basic elements of physics and chemistry, scientific experimentation, and research. |
| Technology | DVDs, CD-ROMS – used to support history and science studies<br>Supervised Internet searches<br>Newscasts, video recordings<br>Software instruction<br>▪ typing<br>▪ word processing<br>▪ PowerPoint<br>▪ Excel | The child will develop skills and proficiencies with technological hardware and instructional, productivity, and communication software. |