

Lower El Scope & Sequence

Humanities and Science

As members of the human family our roots lie in the distant past and history is our common story.

Elementary students study the emergence of the first humans, past and present civilizations and the universal needs of humanity. Timelines, the Clock of Eras, and the Black Line are some visual ways for the elementary child to associate massive amounts of time and relate it concretely by comparison to the student's own time on earth. The retellings of Montessori's Great Stories are for the very purpose of striking the child's imagination, raising questions and nurturing the desire to delve into the studies of the universe. They enable the child to come to the realization that there are universal physical laws that govern all matter, that all living things have purpose and that all living things play an important role in the whole picture of life. When the order of the universe has been embraced the child then can bring order into his/her own being and begin his/her journey through life with self discipline and a yearning for lifelong learning.

Humans, animals, the earth and all matter, have a place, a purpose and follow laws. Earth science, physics, botany and zoology are the curricular areas where children learn the rules that govern the earth and the place and purpose of all living things. Impressionistic plant and geology charts are Montessori developed aids to strike the imagination of the child and help them understand the complicated processes of plant and earth formations. The charts, experiments and models enable the elementary student to "see" and to understand the composition of our earth. Botany experiments along with the charts and live specimens demonstrate the complexity of plants. Children learn the scientific method by observing patiently, making hypotheses, and analyzing results. Three-part cards and many nonfiction books give opportunities for research and learning the vocabulary of science.

The study of famous artists and composers, and field trips to theaters for musical and dramatic presentations, allow cultural background experiences that broaden the scope of learning. Exposure to and using the art form of scanning various art prints give a peek into the past and enables a better understanding of life styles, architecture, and values of our human heritage.

Children who have completed a 3-year cycle are described as respectful, hard working, independent, confident, and peaceful. Montessorians believe that these qualities are innate in all children. It is our responsibility not to interfere, but rather to support the development of these qualities in all children. The prepared environment of the classroom and the built in control in the Montessori materials enable the child to choose, focus on, and self correct work. It fosters independence within the child, a true internalized work ethic. The child is able to make mistakes (natural steps in the learning process) and is then able to self correct without being penalized. Striving for one's personal best replaces the competitive nature of graded school settings thus creating a peaceful person and peaceful learning environment.

A peace curriculum helps children internalize more external elements of peace. Children learn

how to communicate clearly, express kindness and respect, learn skills of conflict resolution and study the world's great peacemakers and leaders of nonviolent social change. Montessori students learn that they have a place and purpose in the universe. Belonging creates self-esteem. Self-esteem creates respect, acceptance, and tolerance.

Children are continually learning and practicing actions with purpose, compassion for others, order and organization, self-confidence and control. These are the essence of a strong leader. By the end of the 3-year cycle leadership skills have blossomed; for example, an older child will lead our morning ceremony. This allows for older students to lead the entire class for the first twenty minutes of each day. Children who have completed the 3 year elementary cycle have been noted among their peers and by their future teachers as having a very special gift of self-confidence, poise, and compassion. They display a seemingly natural ability to be a positive role model to their peers.

Math/Geometry

Learning the right answers gets a child through school. Learning how to learn gets one through life.

Dr. Montessori developed a concrete representation of the decimal system to enable children to learn the extremely complex, abstract concepts of mathematics by way of graphic and multi-sensory representation. Educators continue to marvel today at the way her materials, developed a century ago, form a visually and intellectually impressive tool for learning all the mathematical operations. Beads, tiles (stamps), metal insets, 3-dimensional solid forms, boards with strips, boards with beads, square and cube chains, bead frames, algebraic cubes, the multiplication checkerboards and the test tubes for division provide intriguing manipulative for learning.

Children learn how to do four-digit addition, subtraction, multiplication and division with materials in kindergarten or first grade. The child gradually progresses through increasingly abstract materials until third grade when they are able to do those same equations without materials.

Math facts are not neglected in Montessori math; in fact, there is an entire set of materials just for fact mastery. The mastery of basic facts is imperative for the mastery of advanced abstract equations. Children are assessed for fluency of math facts, but understanding the concept far outweighs the need for fast recall. Students learn to think, not simply memorize.

Geometry is the formal extension of the Children's House sensorial materials. Children used concrete objects to learn geometric figures and shapes. Children engage in cross curricular work by using language to express the differences in shape and size as well as new vocabulary that are unique to geometry. Measurement in standard and metric units is done throughout the 3-year cycle.

Montessori education nurtures the child's innate curiosity; it doesn't stop at how, but explains the why.

Reading/Language Arts

The zenith of neurological thought is what a child experiences when she/he learns to read.

Reading is taught using principles of the Orton-Gillingham and Wilson reading system. The five components of reading that the National Reading Panel Report identified are stressed throughout the curriculum - phonetic awareness, phonics, vocabulary, fluency and comprehension. Early readers use a variety of books that include Cynthia Rylant, Arnold Lobel and Mary Pope Osborn.

After a child's "explosion into reading", students proceed rapidly into a systematic study of the English language: vocabulary, spelling rules, and linguistics. Quality children's literature and fascinating works on science, history, geography and the arts capture children's interest and provide the basis for cross-curricular learning. Once reading, Montessori students usually develop a lifelong desire to read for recreational as well as research/learning purposes.

Elementary students visualize the art of language by working with tangible matching and sorting language cards, moveable alphabet cards in manuscript and cursive, grammar symbols and literature. Word study increases understanding of English as well as expanding vocabulary. Audile learning is absorbed through phonemic awareness activities, listening to recorded literature and books read aloud, and through computer software. Montessori Education Computer Systems software enables students to enjoy visual as well as audile reinforcement of language arts in a technological format that is intriguing to children and provides an increasingly important acquired skill for learners in the 21st century.

Writing is a daily activity. Letter formation in both manuscript and cursive is taught. Expository, narrative, and persuasive writing is practiced, as well as, letter writing. As daily writing progresses students learn to organize increasingly complex ideas and cross-curricular information into well-developed stories, poems and reports.

Subject		Level 1	Level 2	Level 3
Language Arts	Writing	<ul style="list-style-type: none">• Manuscript handwriting• Ending punctuation, capital letter use• Up to 6 sentences	<ul style="list-style-type: none">• Comma, quotations• Paragraphing – topic, supporting, concluding sentences	<ul style="list-style-type: none">• Cursive handwriting• Types of sentences• Types of writing
	Reading	<ul style="list-style-type: none">• Short vowels• Blends and consonant digraphs• Silent "e" and vowel digraphs• decoding and comprehension skills	<ul style="list-style-type: none">• Word study- compounds, root, prefix, suffix, synonym, antonym, homographs• Literature skills	<ul style="list-style-type: none">• Word study- compounds, root, prefix, suffix, synonym, antonym, homographs• Literature skills
	Grammar	<ul style="list-style-type: none">• Article, noun, adjective, verb, conjunction	<ul style="list-style-type: none">• Pronoun, preposition, adverb, interjection	<ul style="list-style-type: none">• Subject, predicate, indirect and direct object
	Research	<ul style="list-style-type: none">• ABC order• Guide words• Table of contents	<ul style="list-style-type: none">• Glossary• Resource books-dictionary, encyclopedia, atlas	<ul style="list-style-type: none">• Bibliography• Resources books-thesaurus• Computer-search engine• Research projects

Subject		Level 1	Level 2	Level 3
Math	Numeration	<ul style="list-style-type: none"> Teens / tens Quantity and symbol 	<ul style="list-style-type: none"> ordinals 	<ul style="list-style-type: none"> rounding, estimating
	Decimal system	<ul style="list-style-type: none"> Thousand, hundred, ten, unit 	<ul style="list-style-type: none"> hundred thousand, ten thousand 	<ul style="list-style-type: none"> millions and up, decimals
	Operation concepts	<ul style="list-style-type: none"> 4 digit addition, multiplication, subtraction, division with materials 	<ul style="list-style-type: none"> 4 digit addition, multiplication, subtraction, division with materials 	<ul style="list-style-type: none"> 4 digit & up addition, subtraction, multiplication, division without materials
	Facts memorization	<ul style="list-style-type: none"> addition doubles of numbers squares of numbers 	<ul style="list-style-type: none"> addition 1 – 10 subtraction 1- 10 cubes of numbers 	<ul style="list-style-type: none"> multiplication 1-10 division 1-10
	fractions	<ul style="list-style-type: none"> whole -1/10 	<ul style="list-style-type: none"> equivalencies 	<ul style="list-style-type: none"> + - with like & unlike denominators
	money	<ul style="list-style-type: none"> penny – dollar 	<ul style="list-style-type: none"> equivalencies 	<ul style="list-style-type: none"> + - x / < >
	time	<ul style="list-style-type: none"> hour – ½ hour 	<ul style="list-style-type: none"> ¼ hour – minute 	<ul style="list-style-type: none"> addition & subtraction of time time zones
	measurement	<ul style="list-style-type: none"> ruler – metric, standard graphing, grids 	<ul style="list-style-type: none"> scale, ruler, temperature – metric, standard area, perimeter 	<ul style="list-style-type: none"> length, weight, capacity – metric, customary
	algebra	<ul style="list-style-type: none"> monomial 	<ul style="list-style-type: none"> binomial 	<ul style="list-style-type: none"> trinomial
Geometry		<ul style="list-style-type: none"> solids circle, rectangle, triangle, polygon, quadrilateral, curved fig. 	<ul style="list-style-type: none"> point, line, surface perimeter 	<ul style="list-style-type: none"> lines, angles, polygon, triangle, quadrilateral, circle, similarity, equivalent, congruent area, volume

Subject		Level 1	Level 2	Level 3
Physical Science		<ul style="list-style-type: none"> magnet manipulation* balance* simple machines* light and heat* 		
Life Science		<ul style="list-style-type: none"> 5 kingdoms of life kingdom, phylum, class 	<ul style="list-style-type: none"> 5 kingdoms of life kingdom, phylum, class 	<ul style="list-style-type: none"> 5 kingdoms of life kingdom, phylum, class, order, family, genus, species
	Zoology	<ul style="list-style-type: none"> vertebrate / invertebrate Parts of fish, amphibian, reptile, bird, mammal 	<ul style="list-style-type: none"> characteristics of fish, amphibian, reptile, bird, mammal 	<ul style="list-style-type: none"> Invertebrate classes proterozoa, porifera, cnidaria, platyhelminth, nematode, annelid, arthropod, mollusk, echinoderm
	Botany	<ul style="list-style-type: none"> Parts of plant, flower, seeds, fruit experiments & demonstrations on plant physiology 	<ul style="list-style-type: none"> Parts of leaves, trees, roots, stems experiments & demonstrations on plant physiology 	<ul style="list-style-type: none"> types of roots, stems, leaves experiments & demonstrations on plant physiology
Earth Science		<ul style="list-style-type: none"> planets rock/mineral seasons parts of inner earth, volcanoes 	<ul style="list-style-type: none"> planets, stars 3 kinds of rocks inner earth kinds of volcanoes 	<ul style="list-style-type: none"> planets, sun rock cycle volcanoes

Cultural Studies	Geography - physical	<ul style="list-style-type: none"> lake, island, gulf, peninsula, strait, isthmus, lake system, archipelago parts of mountain & river biomes countries artifacts, reading, animals 	<ul style="list-style-type: none"> landform review map key, compass rose countries, landform mapping animals of biomes 	<ul style="list-style-type: none"> landforms on continents latitude & longitude countries, capitals, landforms peoples of biomes
	Geography - cultural **			
	History	<ul style="list-style-type: none"> Great Stories – The History of the Universe Timeline of Life – The History of Earth & It's Life 	<ul style="list-style-type: none"> Great Stories– The History of the Universe Timeline of Life– The History of Earth & Its Life 	<ul style="list-style-type: none"> Great Stories– The History of the Universe Timeline of Life– The History of Earth & Its Life
	Civics	<ul style="list-style-type: none"> pledge, U.S. symbols, flag, borders, famous monuments cosmic address 	<ul style="list-style-type: none"> states and abbreviations land & water forms 	<ul style="list-style-type: none"> States U.S. regions three branches of government
	World Traditions & Celebrations	<ul style="list-style-type: none"> learn about celebrations and traditions of the continent we are on in the 3-year cycle 	<ul style="list-style-type: none"> learn about celebrations and traditions of the continent we are on in the 3-year cycle 	<ul style="list-style-type: none"> learn about celebrations and traditions of the continent we are on in the 3- year cycle
Peace		<ul style="list-style-type: none"> Personal actions, emotions and impact (self) peace symbols 	<ul style="list-style-type: none"> Others actions, emotions and impact (beyond self) biographies world peacemakers 	<ul style="list-style-type: none"> Ways to make change Nobel prize recipients

*** These physical science areas are taught throughout the year in group lessons spiraling up each year.**

**** The continents are studied in a rotation so that all the continents are studied during a 3 year cycle.**