



ABOUT THE CURRICULUM

North Shore Montessori School in Rowley is proud to offer a broad and interconnected academic curriculum that is tailored for each child's needs, interests and learning style—while ensuring academic rigor and a balanced education based on a hands-on and collaborative style.

Cosmic Education—a hallmark of the Montessori Method—is intended to help each of us search for our cosmic task as a species and as individuals. To do this, we must understand ourselves in context. It is only against the background of our place in the universe, our relationships with other living organisms, and our understanding of human unity within cultural diversity, that we can attempt to answer the question, “Who am I?”

Following is an overview of what we offer in grades 1-6. Elements of these subjects are also covered in the Children's House for our preschool through kindergarten students at an age-appropriate level.

We invite you to arrange a time to come and visit our classroom, or speak to our educators to learn more about our exceptional and empowering child-led learning offerings.

Geography

- Origin of the universe
- Creation stories of various cultures
- Structure of the universe
- Origin of Earth: sun and solar system
- Geological composition of the Earth

- Effects of Earth's rotation
- Time zones
- Longitude and latitude
- Effects of Earth's revolution
- Solstices, equinoxes, and seasons
- Temperature zones
- Geography nomenclature (land and water forms)
- The atmosphere
- Winds
- Interaction of heat, wind, water, wind and snow
- Ocean currents
- Erosion by water and wind
- Oceans and rivers
- Vegetation in different zones
- Human populations
- The water cycle
- Political geography (continents, countries, cities)
- Types of government
- Imports and exports
- Flow of trade
- Money
- Interdependence of human beings in society
- Geology (composition of the Earth, plate tectonics, earthquakes, rock cycle)
- Chemistry (phases of matter, atom, table of elements, physical characteristics of materials, lab equipment, procedures and safety, molecule modeling, ions, acids, bases, types of reactions, experimental method, measurement science)
- Physics (energy, force and motion, simple machines, sound, electromagnetic spectrum, electronics, light)

History

- Planetary history
- Timeline of life (geologic timescale with associated evolution of life)
- Timeline of human beings (prehistoric humans)

- Fundamental needs of human beings
- Phases of history (nomadic, agricultural, urban)
- Ancient civilizations (Sumer, Egypt, Greece, China, Indus Valley, Rome, Mayans, etc.)
- Human migrations
- United States history
- Child's own family history
- History of other subject areas

Grammar and Mechanics

- Phonology of English
- Word study (affixes, compound words, word families)
- Etymology
- Nouns (number, gender, classification)
- Articles (definite and indefinite)
- Adjectives (classification, positive/comparative/superlative)
- Verbs (tense, mood, voice, verbals, complete conjugation of regular and irregular verbs)
- Prepositions
- Adverbs
- Conjunctions
- Interjections
- Analysis of simple, compound, complex, and compound-complex sentences
- Cursive penmanship
- Spelling
- Punctuation

Reading and Expression

- Origin of writing and the alphabet
- Writing persuasive essays
- History of spoken language
- Writing poetry
- Interpretive reading
- Writing biographies
- Memorizing and reciting poetry
- Dramatic improvisation
- Reading aloud
- Producing plays

- Oral presentation skills
- Research skills
- Sentence structure in writing
- Literary genres
- Paragraphs
- Expository writing
- Writing stories with dialogue
- Journaling
- Writing letters

Mathematics

- Basic numeracy
- Adding, subtracting, multiplying and dividing positive and negative integers through billions
- Associative, commutative, distributive laws
- Order of operations
- Multiples and common multiples
- Factors, prime numbers, prime factorization
- Lowest common multiple and Greatest common factor
- Tests of divisibility by 2, 3, 4, 5, 6, 8, 9, 11 and 25
- Long multiplication
- Long division
- Fractions (equivalence, adding, subtracting, multiplying, dividing, reducing, converting to decimal fractions, mixed numbers)
- Decimal fractions (categories, adding, subtracting, multiplying, dividing, powers of 10, percentage, converting to mixed numbers)
- Powers of numbers (concept, arithmetic and geometric interpretations, algebraic laws of exponents, scientific notation)
- Squaring and cubing binomials, trinomials and quadrinomials—numerically and algebraically—with applications to squaring of 2,3, and 4- digit numbers
- Square root and cube root (concept, algorithm for calculating roots of numbers of arbitrary size)
- Measurement (length, weight, time, force, unit conversions)
- Non-decimal bases (concept, counting, adding, subtracting, multiplying, dividing, conversion to a different base)
- Balancing equations and solving for one unknown

- Ratio and proportion (concept, ratio as fractions, cross-multiplication, word problems)
- Distance, rate and time problems
- Principal and interest problems
- Graphing (interpreting and creating histograms, line graphs, pie charts, graphing functions)
- Cartesian coordinates

Geometry

- History of geometry
- Congruence, similarity, equivalence
- Polygons (concepts, nomenclature, relationships, sum of angles, types of triangles)
- Theorem of Pythagoras
- Circles (concepts, nomenclature, computing circumference)
- Lines, rays, line segments, parallel lines
- Angles (parts, types, measuring with a protractor, complementary/supplementary, etc.)
- Transformations of triangle, rhombus, trapezoid, pentagon and decagon to equivalent rectangle
- Generalization of Pythagorean Theorem to other polygons
- Area of plane figures (rectangle, parallelogram, triangle, trapezoid, rhombus, decagon, circle)
- Solids (building models, nomenclature, polyhedra, lateral and total surface area)
- Volume (rectangular prisms, other right prisms, pyramid, cylinder, cone, sphere, ellipsoid)
- Geometric construction with compass and straightedge.

Biology

- Plant anatomy and function
- Botany nomenclature
- Classical taxonomy of the plant kingdom
- Using dichotomous plant keys
- Body function of vertebrates
- Classical taxonomy of the animal kingdom
- Modern classification (Archaea, Eubacteria, Eukaryota)

- Cells
- Human body (major systems, nutrition, physical education)
- Ecology (major biomes, food webs, interdependence).

Art and Handwork

- Art History (major schools and artists)
- Drawing (line, perspective, shading, proportion, pencil, charcoal)
- Painting (basic color theory, water color, acrylic)
- Making dioramas
- Weaving
- Sculpture
- Handwork (crochet, knitting, quilting)

Music

- Singing
- Rhythm (clapping, reading rhythmic notation, rhythmic dictation)
- Ear training (matching pitches, ordering pitches, interval training)
- Music theory (musical notation, keys, transposition, scales, circle of fifths)