Kingwood Montessori
Educating The Leaders Of Tomorrow

UPPER ELEMENTARY CURRICULUM GRADES 4-6

The Montessori elementary curriculum was developed as an integrated whole to serve the developmental needs of children from ages 6 to 12. Dr. Montessori termed this period the second plane of development. The continuity of the curriculum allows individual children to move through the various subject areas at the pace that supports mastering the subject material, building confidence and genuine self-esteem. The division of the elementary into two stages, 6-9 year olds and 9-12 year olds is based on the students' developmental needs as they move towards adolescence. The work in the lower elementary is done with extensive Montessori material allowing the children not only to experience the depth and breadth of the curriculum, but also to become comfortable with their own learning styles. The upper elementary students, ages 9-12, transition to more abstract thinking relying more heavily on books and other resource material as they strengthen the work begun in the lower elementary. The overall goal of the Montessori Upper Elementary is to provide a prepared environment that meets the needs and tendencies of the child at this stage of their development.

Characteristics of children in the second half of the Second Plane of Development (ages 9-12):

1. The reasoning mind is very important.
2. For every answer the children have a question, "Why?"
3. By the time they reach the Second Plane, the child has achieved a certain degree of independence and will continue to strive for more independence.
4. Exploration is another characteristic of this age level and often the child wants to go beyond usual expectations for their age level.
5. The child often turns outward to broader society and the world beyond himself.
6. Friends become increasingly important to children at this age.
7. The child often becomes more adventurous and daring.
8. Some children become "untidy" with personal belongings.
9. During this stage of development, the children's conscience becomes keener; they develop better ideas of right and wrong and often seem to have a better understanding of rules and regulations.
10. Hero worship is characteristic of this age level.
11. Children have enormous potential of intellect and a tremendous power of imagination during this stage of development.

OVERVIEW OF THE UPPER ELEMENTARY LANGUAGE CURRICULUM

Our alphabet has a fascinating history, and it is with the story of "Communication in Signs" that the elementary language program begins. What part did Phoenician merchants play in the development of written symbols? What did the Romans contribute? How is our alphabet different from Chinese characters? These are some of the questions the children may pose for further research. In addition, language is more than a fascinating subject of study in itself. It is the vehicle of human communication, the way in which we exchange ideas, thoughts and feelings. Thus, the language curriculum covers in depth written and spoken language, reading, grammar and research, the keys to both self-expression and the acquisition of knowledge.

For Montessori children, writing typically precedes reading. In the primary classroom, children often develop writing skills, and these, combined with the desire to communicate, lead to many varieties of written composition in the elementary classroom.

In addition to the story of written language, stories about oral language, such as "The Story of Human Speech" and "The History of the English Language," are presented to the children. The teachers use storytelling across the curriculum to convey information and to model the power of spoken language. Children are encouraged to discuss and share their ideas with one another and with the larger group. Many choose to share their reports orally, recite poems, and produce plays.

Most children begin reading in the primary classroom. In the elementary program, they continue learning to read and truly begin reading to learn. Books of all literary types are available in the classrooms. Both fiction and non-fiction serve to expand the children's knowledge and awareness. Adults and children read orally and silently throughout the day, and the children develop a love of literature. They discuss shared readings of stories and books, following a seminar format. This involves preparation of the reading and a willingness to listen and discuss, respectfully, ideas about the text.

The study of grammar in Montessori is unique. Having been introduced to the "function of words" in the primary classroom, elementary children study the parts of speech in more detail. What work does a pronoun do and how is it related to the verb? If its place is changed in the sentence, does the meaning remain the same? Each part of speech has a distinctive, colorful symbol. Children place these symbols above the words of a poem or a prose passage to "see its grammatical structure." Later, they begin to analyze the style of different writers using the grammar symbols.

Visits to the library give the children opportunities to find out more about language. They learn to use reference materials, and they come to appreciate the library as a source of many kinds of information. Their language research may involve the comparison of works by a particular author, the derivation of idioms, or a multi-cultural study of similar folk tales. Library visits are one of many kinds of language explorations children undertake beyond the classroom.

UPPER ELEMENTARY LANGUAGE CURRICULUM

I. Written Language
   - A. The History of Writing (key lessons on topics such as cave paintings, the Rosetta Stone, heraldry, paper making, contributions of Charlemagne.)
   - B. Composition
     1. Paragraph organization
     2. Kinds of paragraphs (descriptive, narrative, expository, persuasive)
     3. Reports (taking notes, outlining)
     4. Essays
     5. Letters (informal and business)
     6. Poetry (quatrain, cinquain, haiku, limerick, etc.)
     7. Stories (setting, characters, plot development, dialogue)
     8. Play writing
     9. Speech writing

C. Mechanics
    1. Spelling
    2. Punctuation and capitalization
    3. Proofreading and editing
D. Handwriting
    1. Cursive and manuscript
    2. Calligraphy (italics, copperplate, etc.)
    3. Illuminated letters and borders
E. Word processing
    1. Individual written work
    2. Class publications (newspaper, literary magazine, etc.)

II. Spoken Language
    A. Theories on the origin of speech
    B. Dialogues and interviews
    C. Class discussions and meetings
    D. Oral reports and recitations
    E. Drama

III. Grammar
    A. Word Study
        1. Root words and affixes
        2. Word families and etymologies of words
        3. Synonyms, antonyms, and homonyms
        4. Vocabulary building
    B. Parts of Speech
        1. Kinds of nouns
        2. Kinds of adjectives
        3. Verbals (infinitives, participles, gerunds)
        4. Kinds of verbs (action, auxiliary, linking, transitive and intransitive), verb phrases, and conjugations
        5. Prepositional Phrases
        6. Pronouns (cases and antecedents)
        7. Use of modifiers (adjectives and adverbs)
        8. Kinds of conjunctions
    C. Sentence analysis
        1. Parts of a sentence (subject predicate, etc.)
        2. Kinds of clauses (main and subordinate, noun, adverbial adjectival)
        3. Sentence diagramming
    D. Foreign Languages (Spanish etc.)
        1. Introduction to the language and its history

IV. Reading and Literature
    A. Oral and silent reading by adults and children
    B. Literary circles (discussions of shared stories and books)
    C. Variety in prose (mysteries, historical fiction, biographies, etc.)
    D. Poetry analysis and appreciation
        1. Meter
        2. Rhyme scheme
        3. Poetic devices: simile, metaphor, alliteration, personification
    E. Reading and analysis of drama
V. Style
    A. Different writing styles
    B. Voice and audience
    C. Analysis of writing style, using grammar symbols
VI. Research
    A. Areas of language research
        1. History of language; history of English
        2. Derivation of idioms
        3. Changes in spelling (historical perspective)
        4. History of a literary genre (drama, letter writing, etc.)
        5. History of English literature (British and American)
        6. Study of a selected author
        7. Introduction to foreign languages and independent research
    B. Resources
        1. Library resources
        2. Other community resources (museums, theaters, universities, local newspapers, etc.)

OVERVIEW OF THE UPPER ELEMENTARY MATH CURRICULUM

The "Story of Numbers" helps children understand the power of mathematics and motivates them to continue exploring numbers. Progression through the Montessori math curriculum is not strictly linear. Instead, Maria Montessori envisioned elementary math as a three-tiered progression. The first tier consists of the numbers to ten, place value, and the four operations. The second tier is dedicated to the memorization of math facts. The third tier is where the children study hierarchy, that is, how the numbers in the decimal system are related and grouped. The children explore different concepts of math simultaneously.

Children frequently ask for the biggest problems possible. They also enjoy writing their own BIG problems. The younger children practice using the materials representing whole numbers, fractions and decimals, and through repeated experiences with them, they "discover" algorithms or concepts by themselves or under the guidance of the teacher.

Montessori places great emphasis on the study of geometry, and all the math materials have a geometric aspect. Children in the lower elementary classrooms study lines, angles, and plane figures, as well as linear and cubic measurement. In the upper elementary the children use boxes of cubes and prisms, which they previously manipulated in the primary classroom, to cube a binomial or trinomial. Through their studies, the students are able to discover abstract concepts of algebra, using materials that once were a part of their sensorial experiences only.

The upper elementary children also take great delight in further study of different systems of numeration, both those used by ancient civilizations, and other possible systems, such as base two or base twelve.

UPPER ELEMENTARY MATHEMATICS CURRICULUM

I. The History of Mathematics
   - A. Key lessons on the history of mathematics (e.g., the invention of zero)
   - B. Work with different systems (Babylonian, Roman, Mayan, etc.)
   - C. Comparison of number systems (Number bases vs. place-value)

II. Numeration and Concepts of Numbers
   - A. Writing and reading large numbers - expanded notation
   - B. Rounding to the nearest ten, hundred, thousand, etc.
   - C. Estimation
   - D. Properties of numbers: commutative, associative, distributive
   - E. Number sentences (order of operations, use of parentheses)
   - F. Ratio and proportion
   - G. Arithmetic mean and median
   - H. Statistics and probability
   - I. Integers (positive and negative numbers)
   - J. Representation of pairs of numbers on a coordinate plane
   - K. Numeration and operations in other number bases

III. Whole Number Operations
   - A. Review of facts for all operations
   - B. Review of dynamic subtraction, especially with zeros
   - C. Mental multiplication of factors with zeros
   - D. Multiple-digit multiplication and division problems
   - E. Cross-multiplication
   - F. All four operations with integers

IV. Fractions, Decimals, and Percent
   A. Addition and subtraction with fractions and mixed numbers (like and unlike denominators)
   B. Multiplication and division with fractions and mixed numbers
   C. Changing fractions to decimals
   D. Changing decimals to fractions
   E. Decimals in expanded notation
   F. Skip counting, comparing, and rounding decimals
   G. Addition and subtraction of decimals
   H. Multiplication and division of decimals
   I. Concept of percent
   J. Comparison and equivalence of fractions, decimals, and percent
   K. Finding the percent of a number

V. Multiples and Factors
   A. Factor trees and prime factorization
   B. Using primes to find the LCM and GCF
   C. Divisibility

VI. Powers of Numbers
   A. Squaring a polynomial (geometric and algebraic representations)
   B. Finding the numerical value of the square of a polynomial
   C. Finding square roots, with materials and abstractly
   D. Cubing a binomial
   E. Cubing a trinomial
   F. Powers of ten
   G. Powers of other numbers
   H. Expanded notation, including with exponents

VII. Measurement
   A. English and metric units of measurement (length, weight, liquid capacity) Equivalences within a system (e.g. converting inches to yards)
   B. Introduction to very small and very large measurements, scientific notation

VIII. Geometry
   A. History of geometry (contributions by various people and cultures)
   B. Geometric design: tessellations, 3-D constructions, origami, scale drawing, symmetry, computer applications, plane figures
   C. Review of triangles, quadrilaterals and their parts
   D. Translation, rotation and reflection
   E. The circle: its parts and relationship to other figures
   F. The theorem of Pythagoras
   G. Area of triangles, rhombi, trapezoids, regular polygons, circles
   H. Review of solids and their parts
   I. Surface area of polyhedrons
   J. Volume of cubes, prisms, pyramids
   K. Volume of cylinders, cones, spheres

IX. Algebra
   A. Concepts (variables and constants, expressions, introduction to functions, equations, etc.)
   B. Computations (order of operations)

X. Problem-solving
   A. Techniques of problem solving
   B. Problems using whole numbers, fractions, decimals, percents, and integer
   C. Problems involving traveling: velocity, distance, and time

D. Money problems (purchasing, figuring tax, interest, tip, check-writing)
E. Geometry problems (angles, perimeter, area and volume)
F. Other practical applications of math (weather, sports, nutrition. etc.)
G. Interpretation and construction of tables and graphs (line, bar, circle)
H. Use of calculators and computers to record and relay data.

OVERVIEW OF THE UPPER ELEMENTARY BIOLOGY CURRICULUM

Plants and animals are an essential part of the elementary environment. Some reside in the classrooms while others visit. As children observe and care for these living things, they acquire the experiential basis for their future understanding and love of biology. They further extend their knowledge by going out to wildlife sanctuaries, arboretums, and nature parks to view animals and plants in their natural habitats.

With this foundation, children become interested in studying the wide variety of life forms on our planet. They read, "Who am I" stories about the lives and characteristics of plants and animals. They examine specimens of different invertebrates and vertebrates. They perform plant experiments that demonstrate the basic functions of each part of a plant.

Although the plant and animal kingdoms receive the most attention, all five kingdoms of living organisms are introduced: Monera, Protista, Fungi, Plant, and Animal. Children study the anatomy, physiology, and classification of living things using classroom resources such as books, card material, and charts. They write reports, ranging in complexity from a simple study of one organism, to a more advanced study of several organisms. Similarities and differences are noted.

Out of the comparative study of life forms, the children make connections between present-day organisms and their predecessors on the Time Line of Life. As conditions on earth changed, organisms that were more complex evolved. In satisfying its needs, each creature seemed to contribute to, or create a niche for, another. As insects evolved, so did flowering plants. Furthermore, these interdependencies still exist today. A lichen breaks down the rock upon which it lives, creating soil, in which mosses can grow. The interdependence of all things in the universe is stressed, with people being the most powerful living thing, but also the most dependent. An appreciation and sense of wonder unfolds as the harmony of creation is revealed.

UPPER ELEMENTARY BIOLOGY CURRICULUM

I. The Five Kingdoms of Living Things
II. Cells (parts & functions)
III. Zoology
    A. Vital functions of animals
        1. Physiology, respiration, circulation, nutrition, reproduction, locomotion, sensitivity
        2. Adaptations
    B. Human physiology (organs & systems)
    C. Evolution & comparative physiology of animals by phyla
    D. Classification of animals by division, phylum, class, order, family, genus, species
    E. Animal reports
IV. Botany
    A. Vital functions of plants with emphasis on photosynthesis, transpiration,

tropisms & reproduction
B. Evolution of plants
C. Classification of plants
D. Plant reports

V. Ecology
A. Ecosystems
1. Living & non-living components
2. Roles of living things: producers, consumers. decomposer
B. Mineral cycles (nitrogen, oxygen, carbon)
C. Endangered species
D. The role of humans in maintaining the environment

OVERVIEW OF THE UPPER ELEMENTARY GEOGRAPHY CURRICULUM

Geography, the study of our home, the Earth, opens the door to the elementary curriculum. It sets the stage for the unfolding of Earth's story, from its inception to its present state. We begin with the story of "The Creation of the Universe" to give a vision of the whole. Then we move to more detailed studies of Earth and its place in the universe. Geography is thus fully integrated with the physical sciences. In fact, as the children learn about the Earth and its place in the universe, they form an intellectual framework for all their studies. From the non-living world to the succession of life forms, to human beings and the development of their unique abilities, children study all the sciences and humanities in relation to one another.

In the study of history and geography, we inspire the children to explore. Maria Montessori called her course of studies for elementary children "cosmic education." There are two principles involved in this concept. First, we always begin with a study of "the whole," which gives the children a unique vision and a holistic foundation for their education. Second, we emphasize that each part of the cosmos is related and contributes to the whole. As the children study geography and other subjects, they become interested not merely in the world and how it functions, but in their individual roles and what part they might play in the continuing story of humanity.

After geography lessons, the children's questions are greeted with enthusiasm. They lead to conversation, experiments, and reading. Research and reports may follow. In this way the children's interest and understanding develop. They actively engage in the study of the sciences, using the resources available within the classroom, around the school environment, and in the community. For example, "the age of volcanoes" section of the creation story often leads to a study of extinct volcanoes and the "Ring of Fire," or it could lead to the study of the rock cycle. Children may initiate further studies beyond the classroom, such as a visit to a natural science museum or an interview with a geology professor. The older children may also plan field studies away from home that support their explorations of study.

UPPER ELEMENTARY GEOGRAPHY CURRICULUM

I. Physical Science
II. Astronomy
A. Space exploration
III. Physics
A. Newton's laws of motion and gravitation matter and energy
1. Potential and kinetic energy
2. Simple machines

3. Gravity and motion
4. Light
5. Heat
6. Sound
7. Electricity and magnetism

IV. Chemistry
- A. States of matter
- B. Elements and the Periodic Table
- C. Atomic and molecular structures

V. Earth Science
- A. Relationship of the earth and the sun
  1. Rotation and revolution of the earth and their effects
  2. Radiant energy
  3. Solstices, equinoxes, and seasons
- B. Composition of the earth
  1. Layers of the earth
  2. Minerals and gemstones
  3. The rock cycle
  4. Plate tectonics and continental drift
  5. Mountain formation, volcanoes, and earthquakes
  6. Rock layers and the fossil record
- C. The atmosphere and its work
  1. Local and global winds and their effects
  2. Concepts of weather: cloud formation, precipitation, air mass, fronts, storms
  3. Climate zones
- D. The hydrosphere and its work
  1. Rivers, lakes, and oceans
  2. Glaciers
  3. Water erosion
  4. Caves

VI. Cartography and Reference Materials
- A. Globe studies (hemispheres, latitude & longitude, time zones)
- B. Map studies (directions, scale, symbols)
- C. Map-making (kinds of maps, different world-map projections)
- D. Atlases and almanacs

VII. Physical and Political Geography
- A. Land and water forms of the continents
- B. Research on particular countries
- C. Cultural studies
- D. Detailed study of North America
- E. Regional studies of the United States of America
- F. Florida geography

VIII. Economic Geography
- A. Natural resources and their distribution
- B. Production and consumption of goods
- C. Global trade and interdependence
- D. Banking and currency exchange

IX. Texas Geography
- A. Regions
- B. Ecology

C. Cities

X. Ocean Topography
   A. Hands-on activities on this theme

XI. Use of the scientific method through experimentation

OVERVIEW OF THE UPPER ELEMENTARY HISTORY CURRICULUM

Maria Montessori wished for children to recognize the contributions of great and unknown persons to modern civilizations. We thank the inventor of the wheel and the medieval scribes for their contributions to history. According to Dr. Montessori, each child has a significant role to play as contributor to the family and society.

The child's personal sense of time is the starting point for the history curriculum. By noting the passage of days, months, and birthdays, the children develop this awareness of time. Children create personal and family time lines a precursor to their work with time lines of human history. We also develop a historical sense of time through the Time Lines of Life and Early People, and then the B.C.E./C.E. Time Line. These visual aids, presented with stories, specimens, and artifacts, help the children understand the evolution of life and development of civilizations.

The children study this panoply of history in detail, and there is particular emphasis placed on world history. During their research, the children make links between classical and modem civilizations. They also engage in field studies to enhance their understanding and appreciation of history. They often read the literature of a particular civilization or study their language, and sometimes they write and perform plays based on historical events or literary figures.

UPPER ELEMENTARY HISTORY CURRICULUM

I. The history of the universe and geological time periods

II. Key lessons on the Time Line of Life

III. Early Human History
   A. Significance of the Coming of Human Beings
   B. The First Time Line of Humans
   C. The Second Time Line of Humans
   D. Study of human evolution Australopithecus, Homo erectus, Homo habilis, Neanderthal, Cro-Magnon, Homo sapiens (specific study depends on interest shown by student)

IV. Civilization: Meeting the Physical and Spiritual Needs of People
   A. The agricultural revolution and literacy
   B. Selected ancient civilizations (such as Babylonian, Egyptian, Chinese, Indus River Valley, Greek, Hebrew, Roman, Mayan)
   C. The Middle Ages
   D. The Renaissance and the Enlightenment

V. American History
   A. Story of the United States of America
   B. American history time line
   C. Key lessons (colonial history, the new nation, westward expansion, social upheaval, the age of industry and invention, the modem age)

VI. Texas History (from Paleo-Indians to the present, with emphasis on multicultural studies)
   A. Study of Native American Life
   B. Texas Timeline (Wars and Conflicts)

VII. Exploration of other states history and geography through research and reports

OVERVIEW OF THE UPPER ELEMENTARY FINE ARTS CURRICULUM

Students use a wide variety of art techniques for presentations and projects. The students are periodically introduced to media and basic art principles such as the use of lines and light. The children expand on the principals of music with body movements, instrumental accompaniment and song. They also use musical instruments as well as their voices.

UPPER ELEMENTARY FINE ARTS CURRICULUM

I. Art
   - A. Artistic Awareness and Sensitivity
     1. Exploration of natural and man-made objects and environments
     2. Discovery of art elements: line, color, shape, value, texture, forms, space, and pattern
     3. Principles of art (relationship of elements): unity, emphasis, balance, variety, proportion, movement, and rhythm
     4. Reading and research about artists
   - B. Creative Expression through Art Materials and Tools
     1. Expression of ideas and feelings in a variety of media: drawing, painting, print-making, constructing, sculpting, collage, modeling 3-D forms, and using fibers
     2. Experimenting with various media to understand their properties and to develop skills in using them (drawing media, painting media, sculpting media)
     3. Production of group art projects (sometimes for exhibits in local community: displays, class gallery, art sales)
   - C. Art Appreciation
     1. Viewing and discussing contemporary and historical works of art and architecture
     2. Analysis and evaluation of works of art (primary sources and visuals); developing an aesthetic sense through positive criticism
     3. Appreciating art from various cultures

II. Music
   - A. Music Listening and Appreciation
     1. Active listening for musical elements: melody, harmony, rhythm, meter, timbre (instrumental or vocal variety), dynamics, major and minor modes, mood and form
     2. Listening to American music of different genres (e.g., folk, spirituals, jazz) and historical periods
     3. Recognition and classification of musical instruments (orchestral popular, and ethnic)
     4. Listening to music of different historical periods and cultures, focusing on great composers
     5. Appreciation of music from around the world
   - B. Music Production and Response
     1. Vocal production (matching pitches; singing popular, folk, patriotic, seasonal, action songs, and rounds)
     2. Playing rhythm and melody instruments
     3. Performing action songs and movements to music
     4. Dancing and creating dances
     5. Keeping steady beat; distinguish macro and micro beats

C. Playing rhythm and melody instruments
    1. Instrumental accompaniment to songs
    2. Dancing and choreography
D. Music Theory
    1. Pitch: the grand staff (treble and bass), notes, chords, major and minor scales, circle of fifths, transposing simple melodies
    2. Rhythm and meter: note values, rests, dotted notes, rhythm recognition and dictation, duple and triple meters
    3. Reading and writing music
    4. Musical terminology
    5. Composing music
    6. Use of dynamics
    7. Distinguish major and minor tonalities
    8. Recognize duple and triple meters

III. Drama and Theater
A. Use of Body and Voice
B. Refining body and spatial awareness, stage terms and directions
C. Diction, inflection, and elocution
D. Identifying and portraying emotions
    1. Creative dramatics
    2. Storytelling
    3. Creating a character
    4. Producing various forms: readers' theater, puppetry, musicals
E. Play production (set design and building, costumes, stage management, advertising and playbill etc.)
F. Theater Appreciation
    1. Attendance of theatrical productions
    2. Preparation and audience etiquette
    3. Discussion of theater event

Transdisciplinary Units for Upper Elementary Grades 4 — 6

Learning About Myself and My Family Personal/Interpersonal Relationships	Learning about History and Geography	Learning How to Use the Arts, Music, Theatre, and Play to Express Myself	Learning about Science and Technology	Learning About Human Systems and Communities	Learning About Sharing resources with People and Other Living Things
Central Idea: Friendship An exploration of: ▪ How to make friends; ▪ How to create a peaceful classroom community; ▪ How to resolve conflicts by using our words. **Central Idea: All About Me** An exploration of: ▪ The physical features that make each person unique; ▪ Habits that keep us healthy; ▪ How to communicate personal needs; ▪ How to get personal needs met without harming others.	**Central Idea: Time is History** An exploration of: ▪ Precambrian, Paleozoic, Mesozoic and Cenozoic Eras; ▪ Level 1 – Study of ancient civilizations through 1000 A.D. ▪ Level 2 – Study history from the year 1000 A.D. through 1865. ▪ Level 3 – Study history from 1865 through modern times. **Central Idea: Study of Geography** An exploration of the 7 continents divided into three year cycle to allow students to study two continents per year: ▪ Land forms and bodies of water; ▪ Divisions of continents into countries, countries into states, cities, capitals and other political subdivisions; ▪ The process of the universe and earth's processes; ▪ Physical maps of the continents followed by political maps; ▪ The formation of the earth and the rock cycle, volcanoes, and plate tectonics; ▪ The sun and its insulation, the structure, the solar system and radiant energy; ▪ The movement of the earth and its consequences specifically astronomic Zones and Seasons, planetary motions, climate and atmospheric zones; ▪ The atmosphere and its phenomena including wind, air pressure, layers of the atmosphere, and weather; ▪ The work of the wind including marine currents, features of the ocean floor, ocean life zones and weathering; ▪ The work of water rain, valleys, rivers, and glaciers.	**Central Ideas: Tell Me a Story** An exploration of: ▪ Learning that stories are told in many different ways; ▪ Reading quality books and literature; ▪ Telling stories for specific reasons. **Central Ideas: Writing as a Means to Communicate** An exploration of: ▪ The skills necessary to effectively communicate through written word; **Central Idea: Celebrations** An exploration of: ▪ Celebrations as a means to express feelings of love, happiness, sharing, remembrance, hope; ▪ The differences in the ways people celebrate. **Central Idea: Look at Me!** An exploration of: ▪ Finding and developing our unique talents; ▪ Sharing these talents with others; ▪ Developing presentation skills; ▪ Appreciating the talents of others. **Central Idea: Free Play** An exploration of: ▪ Free, unstructured play which is essential to the development of the young child; ▪ Brain-based learning theory techniques to stimulate the production and development of brain cells. ▪ Learning to cooperate in a group.	**Central Idea: Biology** A exploration of (Level 1): ▪ Cell theory and identification of prokaryotic cells, eukaryotic cells, plant cells and animal cells; ▪ The classification of the five kingdoms; ▪ The scientific definitions of animal, plant, prokaryote, protoctista and fungi; ▪ The cell, porifera, cnidaria, mollusca, annelida, arthropod, echinoderm, chordate; ▪ The vital functions of the animal kingdom including support and movement, nutrition, circulation, respiration, reproduction and sensitivity; ▪ The vital function of plants including respiration, digestion, circulation, excretion, defense, reproduction; ▪ Level 2 – Plant physiology and the preservation of life and conservation of the species; ▪ Level 2 – The differences between the orders and classes of various organisms. Students identify and research the kingdom, phyla, class, order, family, genesis, and species of different organisms; ▪ Level 3 – The Whitaker five-kingdom system and the symbiotic theory of the origin of eukaryotic cells; ▪ Level 3 – The study of human physiology and anatomy/; Investigation of the following systems: skeletal, muscular, digestive, circulatory, respiratory, excretory, nervous, integumentary, endocrine, reproductive system; ▪ Level 3 – Ecology.	**Central Idea: A Sense of Belonging** An exploration of: ▪ How people within communities work together; ▪ How people within our community help us– police, firemen, doctors, nurses; ▪ Our school community; ▪ Being safe in the community. **Central Idea: Being a Responsible Member of our School Community** An exploration of: ▪ Why work is an important part of human life; ▪ How working together makes jobs easier; ▪ Caring for our classroom and school.	**Central Idea: The Interdependence of All Living Things** An exploration of: ▪ The interdependence between the environment, plants, animals, and human beings; ▪ The relationship between people and plants; ▪ How plants affect the environment and vice versa. **Central Idea: Taking Care of our World** An exploration of: ▪ The environment helps us make wise choices; ▪ The cycles of nature; ▪ Habitats.

Math and Language Scope and Sequence for Upper Elementary Grades 4 — 6

Level 4 Math	Level 4 Language	Level 5 Math	Level 5 Language	Level 6 Math	Level 6 Language
Place value including decimals; multi-digit multiplication; division with two-digit divisor; fractions: simplifying, adding, subtracting, multiplying, converting, common denominators; factors and multiples; money operations including multiplication and division; decimal comparisons, addition, subtraction, and multiplication; convert decimals and fractions; averages (mean); volumetric measurement; multiplication of length, mass, volume and time; geometry: points, lines, angles, triangles, circles, quadrilaterals, lines of symmetry, congruency, 2D representation of 3D figures; application of skills/strategies through story problems; demonstration of concepts through use of manipulatives; use of calculators	Daily reading and auditory comprehension; read words with all syllable types, unusual phonograms, longer words with affixes; six syllable types and syllable division rules; read longer words and words using Greek and Latin code; sustained independent reading for pleasure; develop vocabulary by reading, Wordly Wise; read across the curriculum; identify key words and new vocabulary; develop discussion skills and understanding through questions and guided discussion; write words with long vowel spellings, simple Latin affixes; apply I before e rule; use transition words; process writing; writing forms: six types of expository paragraphs, stories, journal and poems, short research paper with bibliography; give oral presentation to classmates/parents; use dictionary, guide words, thesaurus, encyclopedia, index and table of contents; double entry note taking;	Operations with decimals; Metric and standard unit measurement and conversions; operations with fractions; orders of operations, conversion of fractions to decimals and percentages; average rate and speed; geometry; angle measurement with protractor and compass; congruent and similar figures; ratio and proportion; tessellations; finding unknown angles by calculation; geometrical constructions; application of math skills to real life scenarios/projects	Reading and discussing literature; active reading strategies: in text notes, making connections, making predictions; grammar: sentence diagrams, advanced parts of speech; vocabulary building; development of writing projects; writing for variety of purposes; writing forms: daily journal writing, reports, essays, letters and poetry; simile, metaphor, personification; critical thinking strategies; progression of research skill: advanced outlining, drafting, editing and rewriting; research paper	Mastery of fractions, decimals, and percents and conversions between each; graph analysis; finding trends; using variables to represent unknown numbers; writing simple algebraic expressions and solving for variables; graphing ordered pairs; operations with negative numbers; exponents; circles: area and circumference; advanced operations with ratio and proportion; advanced order of operations; application of math skills to real life scenarios/projects	Reading and discussing literature for comprehension and group discussion skills; work in basic grammar usage, spelling and vocabulary skills; development of writing skills with summaries, response papers, peer reviews, short stories, journals, and composition of the multi-paragraph essay; literary interpretation: elements and genres of literature (figurative language, imagery, symbolism, tone, voice, and character in fiction and poetry); library and internet research; study and computer skills; critical thinking strategies; written and oral reports