# Language

## Grammar

* Know all parts of speech and their functions
* Nouns: singular/plural, feminine/masculine, use noun classification chart
* Adjectives: comparison of adjectives, adjective classification chart
* Verbs: tense, transitive/intransitive, active/passive, mood, conjugation

## Sentence Analysis

* Be able to diagram simple sentences using box 3 and writing on paper
* Be able to diagram complex sentences containing clauses and understand degrees of dependency.

## Reading

* Be able to read and comprehend at grade level
* Be able to read aloud with expression
* Be able to read for information
* Be able to identify different forms of poetry

## Writing

* Be able to write in cursive
* Know and use capitalization rules
* Know and use punctuation rules
* Be able to write a short, fictional story
* Be able to compose different kinds of paragraphs including: informative, comparative, contrasting, instructional, and descriptive

## Word Study

* Be able to identify parts of a words (prefix, root, suffix)
* Know the meanings of common prefixes, roots, and suffixes as well as how prefixes and suffixes change word meaning
* Be able to put words in alphabetical order
* Understand synonyms and antonyms
* Know what homonyms, homophones, and homographs are

# Mathematics

## Whole Numbers

* Be able to read, write in words and expanded notation
* Be able to perform all four operations abstractly and know the vocabulary associated with them
* Be able to factor numbers using a factor tree and understand GCF
* Be able to find the LCM of two numbers
* Know prime number vs composite number
* Be able to do word problems with any operation
* Understand powers of numbers
* Be able to find the square or cube root of any number using the materials
* Be able to round and estimate numbers

## Fractions

* Know how to read fractions and write them in words
* Know the vocabulary associated with fractions
* Be able to do all four operations abstractly
* Know/be able to find equivalent fractions easily
* Be able to convert fractions to decimals and percentages
* Know how to show a ratio as a fraction

## Decimals

* Be able to read decimals, write them in words and expanded notation
* Be able to do all four operations abstractly
* Be able to convert decimals to fractions and percentages
* Know how to round decimal numbers

## Algebra

* Be able to solve linear equations abstractly
* Be able to graph coordinates using Cartesian coordinates

## Probability and Data

* Be able to read and create different kinds of graphs
* Know the vocabulary associated with data
* Understand how to figure probability outcomes and express them in different ways

## Time, Measurement & Money

* Know how to tell time on an analog clock and do all 4 operations with time
* Know metric and standard units of measure and their abbreviations
* Recognize money, be able to perform the four operations and make change

# Geometry

## Lines

* Types of lines
* Positions of one line
* Relationships between two lines
* Intersecting lines
* Two lines and a transversal
* Regions around two lines

## Angles

* Parts of an angle
* Types of angles
* Relationships between two angles
* Measuring angles
* Operations with angles

## Polygons

* Know the parts of all polygons
* Know the names (and etymology) of all types of polygons
* Know what the sum of the angles of any polygon is
* Be able to find the perimeter of any polygon
* Be able to find the area of any polygon
* Understand the idea of symmetry

## Solids

* Know the names of geometric solids
* Be able to find the surface area of any solid
* Be able to find the volume of any solid

## Pythagorean Theorem

* Understand the theorem and be able to utilize it

## Misc.

* Understand the terms congruent, similar and equivalent and be able apply them to sets of figures
* Understand reflection, rotation, and transformation

# History

## Prehistory

* Understand and be able to explain the Big Bang Theory
* Know the Eras and periods on the Timeline of Life, their order, and approximately how long ago they occurred
* Be able to name the predominant features of each period and explain what caused the changes/ what allowed for new developments
* Know the names of the eras/periods during which early humans lived
* Know and be able to explain the development of humans (names of each group, where they lived, what they could do, etc.)

## Human History

* Understand the concept and creation of the BC/AD timeline
* Be able to identify the different time periods in the development of Western Civilization, their order, and how they satisfied their basic needs.
* Know the predominant civilizations that existed parallel to those in the West in other parts of the world

## American History

* Understand and be able to describe the different types of indigenous peoples that inhabited North America before colonization occurred
* Be able to name and describe the different periods in American History (major events and inventions, rulers/government, wars, and how human needs were satisfied). Periods include: Exploration, Colonial, New Nation, Reform & Reconstruction, and A world power.

# Geography

## Political

* Be able to label the countries, capitals, major rivers, lakes, and mountains of North America, South America, Africa, Europe, Asia, and Australia on a blank paper map.
* Be able to label all of the states, capitals, major rivers, lakes and mountains of the United States on a blank paper map.
* Understand longitude, latitude and geographic coordinates

## Physical

* Be able to name and describe all advanced land and water forms. Students should be able to identify actual examples on a political map.

## Economic

* Understand and be able to describe imports and exports, production of goods and services, and GNP

# Science

## Botany

* Be able to name and describe the parts and needs of the plant
* Be able to name the parts and function of the root, stem leaf, flower, fruit, and seed.
* Be familiar enough with the variety of these parts to be able to identify a tree, seed, flower or plant using a guide
* Be able to draw and label a plant cell. Be able to describe the function of the parts.
* Be able to classify plants according to kingdom plantae and the five kingdoms.

## Zoology

* Know and be able to describe the characteristics, body systems (and their functions) of all types of vertebrates and invertebrates as they are presented in the Montessori curriculum
* Be able to draw and label an animal cell. Be able to describe the function of the parts.
* Understand the animal kingdom and be able to classify any animal within this system.

## Human Body

* Be able to name the five senses and the sense organs that they employ
* Be able to name the body systems, their parts, and their functions
* Understand the basics of genetics

## Chemistry

* Know the three states of matter, how matter changes state, and what those changes are called
* Know and be able to explain how heat affects matter
* Be able to draw and label the parts of an atom and describe them
* Understand and be able to describe elements, compounds, mixtures, solutions, suspensions, and emulsions
* Be able to describe the difference between a chemical change and a physical change
* Understand and be able to describe the difference between matter and energy
* Be able to describe and differentiate between types of energy

## Earth Science/Astronomy

* Know and be able to explain/describe the layers of the earth, tectonic plates, the rock cycle/types of rock
* Understand and be able to describe what makes up our universe, galaxy, and solar system (including what makes up stars, the differences between planets, comets and asteroids, etc.)
* Know and be able to describe the life cycle of a star
* Understand and be able to describe the relationship between the Sun and the Earth and how it affects our seasons and weather.
* Know and be able to describe the different stages of the water cycle

## Physical Science

* Know the seven simple machines and be able to name examples of how they are used
* Know and be able to explain Newton’s Laws
* Understand and be able to explain how magnetism works and how it is used to benefit us
* Understand and be able to explain how electricity works