Bloomington Montessori

Learner Outcome Benchmarks

Updated September 19, 2022

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Rationale

From 2018 to 2020, Bloomington Montessori School worked with Grow Wise Consulting to develop school-wide benchmarks related to our learner outcomes. The goals of this project included:

- *clear communication of learner outcomes to parents*
- *tools to communicate effectively between teachers and other educational professionals regarding student expectations and progress*
- *development of benchmarks that authentically reflect Montessori philosophy and BMS's holistic learner outcomes*
- *to aid in the effective collection of data at the student, classroom, and school levels for the purpose of informing instruction and to ensure accountability*
- *to help ensure consistency between classrooms and smooth transitions between program levels within the school*
- *to create consensus around goals for typical students and help facilitate discussions around implementation of student services for those who need extra support*

We wanted to reflect holistic benchmarks that represented application opportunities instead of isolated skills, and that honored the complete development of a child (not only academics). Data is collected to help us assess and track benchmark progress. Data sources in a Montessori environment include:

- *student work (projects, research, work journals, portfolios)*
- *observation*
- *teacher records*
- *cumulative student files*
- *informal assessments*
- *standardized tests (annual for grades 3-6)*

It is important to note that these benchmarks are written to represent the classroom goals for a "typical" child in their third year of each program level. It is not cause for alarm if a child is still working on a few of the benchmarks at the end of the three year cycle. It simply informs the next teacher regarding where to focus learning. However, if a child is struggling to demonstrate competency with a significant number of benchmarks, this may be a reason for teachers and parents to begin discussions about the need for additional classroom supports, an Accommodation Plan, or Individualized Service Plan (see Student Services in the BMS Parent Handbook). Please remember that continual teamwork and communication is the best support for the success of any student.

Our curriculum can be discussed as integration of both skill-based lessons and experiential lessons.

Skill-based lessons are those, typically in the areas of language and math, that must be mastered before the next lessons on a given concept can be taught. Beginning skills are foundational to later skills. It is essential that children are provided extra support and time to master these concepts, and they are most often taught at the individual or small-group level. These skill-based lessons are assessed throughout a child's time in the classroom and data is used to inform future teaching.

Additionally, Montessori believed that we should "give children the Universe", and we have an expansive curriculum of integrated cultural (science, geography, and history) and social (interpersonal, intrapersonal, social responsibility) lessons. These lessons are laid out in a spiral, building deeper and deeper layers of knowledge each year throughout the three-year classroom cycles. We present much more information on every topic each year than we expect children to retain long term. Instead, the goal is to spark their interest and introduce them to the immenseness of the Universe and the limitless possibilities of learning. Children then choose passion projects to dive deeper into the areas that most spark their interest. Social skills listed are introduced with explicit lessons and guided practice, though we recognize mastery of these skills is lifelong work for all of us.

Learner Outcomes

In our effort to offer the highest quality Montessori educational experience, Bloomington Montessori has adopted the following Learner Outcomes (as outlined by the American Montessori Society [Standard 4.2]). These Learner Outcomes serve as a framework with which to discuss our vision for and efforts toward the holistic development of the children we serve.

It is important for our collaborators to be aware of these Learner Outcomes for many reasons, including:

- To better understand the mission of Bloomington Montessori School and the role it serves in our community
- To prepare families for BMS's expectation of support by families in the development of these skills and values
- To better understand the context within which teachers will be discussing a child's progress through our curriculum

These six learner outcomes are complex topics, each involving multiple stages of growth and learning. Our goal, through our spiraling curriculum, is to develop these skills to an age-appropriate level throughout a child's nine year experience here. Graduates of Bloomington Montessori build the tools necessary to continue this developmental journey long after graduation.

Autonomy and Independence

The word "autonomy" finds its roots in the concept of "self-governing". In a Montessori context, this includes the ability to maintain control over one's actions, feel confident making independent choices, and have a strong sense of self.

Confidence and Competence

The self-assurance that comes from recognizing and having faith in one's own abilities and talents is one of the most empowering tools we can offer children. Through a greater sense of ownership of their own achievements, children become energized by their own capability.

Academic Preparation

As in most schools, we have a strong belief in children's need to be prepared with knowledge and skills that will enable them to navigate education and life successfully. This includes a well-rounded curriculum of language, mathematics, biology, physical science, geography, and history. Additionally, we focus on process-centered goals such as the development of critical thinking skills, problem-solving, work habits, and creativity. (See Scope and Sequence for detailed information.)

Intrinsic Motivation

To find the work of life internally satisfying creates a drive that propels children toward productivity and success in all areas as they grow. By avoiding extrinsic motivations (such as rewards and punishments), we leave space for this vital inner development of the child.

Social Responsibility

The idea that we each should strive to benefit society and care for ourselves, each other, and the Earth instills children with a sense of stewardship. Our Cosmic Curriculum explores the interconnection of all living things, encouraging the development of environmentally aware global citizens.

Spiritual Awareness

Spiritual awareness is a process by which we explore our own being and thoughts. We help children develop a sense of mindfulness, purpose, and possibility. This includes development of growth mindset and comfort with self-reflection.

BENCHMARK GUIDES

INTERPERSONAL SKILLS

Early Childhood

Social Responsibility
In Early Childhood, we practice:
(Care of others)

- addressing conflicts by identifying the trigger and using words to communicate feelings.
- demonstrating sympathy for children who are upset or hurt by asking if they are okay or offering to help.
- helping children who ask for help.
- taking turns speaking in conversations.
- following agreements of the classroom intended to respect ourselves, each other, and the physical environment.

Social Justice
In Early Childhood, we practice:

- listening to and discussing age-appropriate stories about people from a variety of backgrounds, races, ethnicities, religions, family structures, etc.
- noticing and discussing that we all have different eyes, smiles, skin tones, and hair; we are all beautiful, and we are part of the tapestry of our personal stories.

Global Citizenship
In Early Childhood, we practice:

- listening to and discuss stories about people from a variety of geographic, religious, and political backgrounds.

Environmental Stewardship
In Early Childhood, we practice:
(Care of Environment)

- working to care for our classroom by cleaning up after ourselves and volunteering to help with communal tasks.

(Appreciation for Nature)

- demonstrating interest in and respect for nature.
- helping care for classroom plants or pets.
- reducing waste by recycling and/or composting.

Lower Elementary

Social Responsibility

In Lower Elementary, we practice:

- addressing conflicts by using the Giraffe Talk script to communicate observations, feelings, needs, and wants.
- demonstrating sympathy and reflecting on empathy (with support as needed) for peers who are upset or hurt.
- identifying ways our actions affect our classmates and offering help when needed or asked.
- taking turns listening and speaking, including asking questions and responding to comments, in conversations with peers.
- following agreements of the classroom intended to respect ourselves, each other, and the physical environment.
- discussing pros and cons of media use.

Social Justice

In Lower Elementary, we practice:

- reading, listening to, and discussing stories about people from a variety of backgrounds, races, ethnicities, religions, family structures, etc. including some with stories of historical or current injustice or inequality.
- participating in a service learning project to help people in the community.
- participating in anti-bias activities and discussion as part of a community Peace Circle.
- identifying ways that people have been persecuted for our skin tone, religion, sexuality, etc. in the past and prejudices that continue today; empathizing through naming the emotions we believe victims feel.
- defining the term “bias”.

Global Citizenship

In Lower Elementary, we practice:

- reading, listening to and discussing stories about people from a variety of geographic, religious, and political backgrounds.
- researching another country, including aspects of the cultures within that country.

Environmental Stewardship

In Lower Elementary, we practice:

- spending focused attention in nature, recording detailed observations.
- working to care for the environment by cleaning up after ourselves and completing communal tasks to care for the classroom without reminders.
- learning about environmental issues and discussing consequences and possible solutions.
- helping care for classroom plants or pets and classroom gardens and outdoor spaces.
- identifying where foods grow or come from and describing the variety of foods necessary for humans to thrive.
- reducing waste by composting food scraps and/or using single-stream recycling and landfill receptacles.
- conducting an engineering experiment to solve an environmental issue.

Upper Elementary

Social Responsibility

In Upper Elementary, we practice:

- working to solve conflicts through listening, expressing oneself effectively, recognizing the needs and feelings of others, and compromising/brainstorming solutions.
- empathizing with peers who are upset or hurt and focusing on comfort or solutions.
- understanding the interdependence of our classroom and larger community through our actions.
- demonstrating the balance of listening, speaking, asking, tone of voice, and body language in effective communication during conversations with peers and adults.
- demonstrating respect for ourselves, each other, and the environment, even in new or unfamiliar situations.
- engaging in critical thinking regarding media (message, credibility, goal, etc.)

Social Justice

In Upper Elementary, we practice:

- reading, listening to, and discussing first-person stories about people from a variety of backgrounds, races, ethnicities, religions, family structures, etc. including some with stories of historical or current inequality/injustice.
- interviewing people or listening to presentations by people from a variety of backgrounds around the theme of historical or current injustice or inequality.
- using news articles as starters to discuss current social justice issues.
- focusing learning and discussion around a social justice issue within the community and designing and implementing a related service learning project.
- participating in anti-bias exercises and discussions; reflecting on our own “lenses” and the biases they lead to, and analyzing current events from this point of view.
- identifying an example of systematic racism.
- defining and giving examples of “privilege” in a social context.

Global Citizenship

In Upper Elementary, we practice:

- Discussing interdependence, including rights and responsibilities, in terms of the whole-world community.
- Researching a variety of locations and cultures outside of one's own experience.
- Writing a first-person narrative story about a person from a different cultural, religious, geographic, or political background than oneself based on relevant non-fiction information.
- Writing a pen pal letter to a child in another country.

<u>Environmental Stewardship</u>

In Upper Elementary, we practice:

- Observing, recording, collecting data, and drawing conclusions about questions and experiences in nature.
- Caring for our environment by cleaning up after ourselves, communally caring for the classroom, and helping to care for the larger school campus.
- Focusing learning and discussion around an environmental stewardship issue within the community and designing and implementing a related service learning project.
- Helping care for classroom pets and plants as well as campus gardens.
- Tracing the environmental impact of foods within current food systems and identifying goals around healthy and sustainable food.
- Reducing waste by composting food scraps, reducing packaging whenever possible, and/or sorting waste into landfill, single stream, and county recycling receptacles.
- Participating in a Citizen Science project.
- Identifying contributing factors to climate change, indicators of climate change, and actions that will contribute to solutions.
- Celebrating Earth Day through activities to raise money for an environmental stewardship cause, creation of informative posters, and festivities to bring school the community together around the issue of caring for our Earth.

INTRAPERSONAL

Early Childhood

<u>Autonomy & Independence</u>
In Early Childhood, we practice:
(Emotional Self-Regulation)

- identifying when we are upset and expressing this verbally to a peer or teacher.
- demonstrating self-soothing strategies when upset.

(Self-Control)

- using appropriate body and voice for a variety of situations (group, outside play, lunch, work time).
- waiting patiently for snack or materials.
- resisting aggressive urges.

(Independent Choices)

- transitioning from one choice to the next independently.
- making work choices based on interests.
- demonstrating creativity through extensions beyond the basic use of materials.

(Care of Self)

- Gaining autonomy with meeting one's needs (dressing, blowing nose, tying shoe)
- Advocating for oneself appropriately when needing assistance to fulfill needs

<u>Confidence & Competence</u>
In Early Childhood, we practice:
(Work Habits)

- consistently completing a successful work cycle (choose a work, do the work, put the work away).

(Self-Advocacy)

- asking “three before me” to demonstrate the ability to seek help.

(Strong Self-Concept)

- naming some things we are good at and some things at which we would like to be better.

<u>Intrinsic Motivation</u>
In Early Childhood, we practice:
(Growth Mindset)

- verbalizing the importance of trying hard and the knowledge that it will make us stronger.
- expressing growth mindset through use of the word "yet". ("I don't know how to do that *yet.")*

(Embracing Challenge)

- choosing challenging works and persisting, problem solving, and persevering.

(Flow/Concentration)

- regularly demonstrating concentration in activities.
- demonstrating curiosity and engagement with specific topics of interest.

<u>Spiritual Awareness</u>

In Early Childhood, we practice:

(Mindfulness)

- reflecting verbally on our actions.

(Interdependence)

- helping our community and receiving help from our community.
- collaborating in positive relationships with adults

(Awe and Reverence)

- demonstrating a love for nature through interest in playing outside and examination of natural objects.

Lower Elementary

Autonomy & Independence

In Lower Elementary, we practice:

(Emotional Self-Regulation)

- naming our emotions.
- using techniques to calm ourselves when upset (when our "lids are flipped").

(Self-Control)

- consistently waiting patiently and productively for a "turn".
- Identifying unproductive choices and making a new choice independently.

(Independent Choices)

- working independently near friends.
- productively and effectively managing our time throughout a morning work period.
- demonstrating creativity through originality of ideas or projects and passion for work and other pursuits.

(Care of Self)

- Demonstrating awareness and autonomy with meeting one's needs (dressing, blowing nose, tying shoe, etc.)
- Advocating for oneself appropriately when needing assistance to fulfill needs

Confidence & Competence

In Lower Elementary, we practice:

(Work Habits)

- making a variety of work choices within our Zone of Proximal Development over the course of a week.

(Self-Advocacy)

- identifying when we need help and seeking help appropriately.

(Strong Self-Concept)

- verbalizing confidence that, with effort, we can figure it out.
- identifying and expressing comfort with our "gifts and challenges".
- demonstrating willingness to take risks and be wrong.

Intrinsic Motivation

In Lower Elementary, we practice:

(Growth Mindset)

- verbalizing the belief that we can achieve our goals through effort and reflect on accomplishment of past goals.
- identifying that mistakes are how we learn.

(Embracing Challenge)

- choosing challenging works without prompting and persisting, problem solving, and persevering with a positive attitude.

(Flow/Concentration)

- regularly demonstrating sustained concentration in a variety of activities.

<u>Spiritual Awareness</u>

In Lower Elementary, we practice:

(Mindfulness)

- reflecting on our emotions and behaviors, identifying the stimulus, and discussing why it caused our reactions.

(Interdependence)

- discussing ourselves as part of the Universe.
- collaborating in positive, respectful relationships with adults

(Awe and Reverence)

- demonstrating respect and gratitude through reducing waste and recognizing origins.

Upper Elementary

Autonomy & Independence

In Upper Elementary, we practice:

(Emotional Self-Regulation)

- recognizing when we need to pause (between stimulus and response) and using constructive strategies to settle ourselves before we act (respond).

(Self-Control)

- taking responsibility for prioritizing work over social urges as needed (finding a balance).

(Independent Choices)

- productively and effectively managing our work plans through planning and prioritization.
- demonstrating originality, passion, and risk-taking through a wide variety of pursuits.

(Care of Self)

- Demonstrating body awareness and independently taking care of one's physical, emotional, and mental needs
- Advocating for oneself appropriately when needing assistance to fulfill needs

Confidence & Competence

In Upper Elementary, we practice:

(Work Habits)

- prioritizing and managing time to complete quality work over the course of a work plan cycle, consistently meeting deadlines.

(Self-Advocacy)

- When personally struggling with something, articulating the cause, feeling, and need to the appropriate resource.

(Self-Concept)

- Leading a conference with teachers and parents that includes sincere reflection on a healthy balance of gifts, goals, and challenges.

Intrinsic Motivation

In Upper Elementary, we practice:

(Growth Mindset)

- exhibiting effort in our work (perisiting, problem solving, persevering) and mapping a path toward goals.
- persevering through failure as a natural learning process and discussing effort as the key to success.

(Embracing Challenge)

- Choosing challenging works fueled by enjoyment of the work.

(Concentration/Flow)

- consciously creating conditions for "flow" and demonstrating this even in activities we don't naturally prefer.

<u>Spiritual Awareness</u>

In Upper Elementary, we practice:

- reflecting on behaviors, feelings, thoughts, and biases and discussing personal reactions.

(Interdependence)

- discussing ourselves as a small and important part of an immense whole and honoring that we are both humble and significant.
- collaborating in positive, respectful, articulate, balanced relationships with adults

(Awe and Reverence)

- demonstrating respect and gratitude for resources in our environment by limiting waste and consumption.

COSMIC EDUCATION

Early Childhood

Maria Montessori urged us to give children a "vision of the universe" to help them discover how all of its parts are interconnected and interdependent, and to help them understand their place in society and the world...through [the integration] of astronomy, chemistry, biology, geography, and history. These lessons help children become aware of their own roles and responsibilities as humans and as members of society, and help them explore their "cosmic task"—their unique, meaningful purpose in the world.[1]

History

In Early Childhood, we practice:

- understanding the passage of time by using words such as "last year, yesterday, tomorrow".
- participating in birthday celebrations that demonstrate that each year of life is an orbit of Earth around the Sun and how the child has changed over time.

Geography

In Early Childhood, we practice:

- our "cosmic address".
- the continents and special facts about each continent.
- celebrating with customs and songs from a variety of cultures.
- identifying landforms and waterforms with hands-on materials
- naming 8 planets in order from the Sun.
- creating maps of the continents and oceans of the world.
- creating a map of a continent and its countries.
- identifying the current season and its characteristics and that seasons change and are a cycle, and appropriate clothing for each season.
- identify morning, day, afternoon, evening, and night and that this is a cycle.

Biology

In Early Childhood, we practice:

- classifying picture cards as living/non-living, plant/animal/mineral, and vertebrate/invertebrate.

[1] American Montessori Society, "Montessori Terminology" https://amshq.org/About-Montessori/What-Is-Montessori/Terminology

- sorting picture cards into 5 classes of vertebrates.
- identifying the external parts of animals from different classes, including correct nomenclature.
- identifying the external parts of trees, flowers, and leaves, including correct nomenclature.
- actively engaging in hands-on experiences in nature as a touchstone for new academic knowledge
- learning lifecycles of plants and animals

Physical Science

In Early Childhood, we practice:

- making observations, predictions, and drawing conclusions through activities designed around a variety of scientific concepts (such as float/sink, magnetism, and balances).

Engineering

In Early Childhood, we practice:

- designing and constructing a structure that embodies pattern, symmetry, and balance.
- building with a variety of materials with different weights, shapes, and dimensions.

Lower Elementary

Maria Montessori urged us to give children a "vision of the universe" to help them discover how all of its parts are interconnected and interdependent, and to help them understand their place in society and the world. In Montessori schools, children in Elementary programs (between the ages of 6 – 12) learn about the creation of the universe through stories that integrate the studies of astronomy, chemistry, biology, geography, and history. These lessons help children become aware of their own roles and responsibilities as humans and as members of society, and help them explore their "cosmic task"—their unique, meaningful purpose in the world.[2]

<u>The Great Lessons (aka Cosmic Stories)</u>

In Lower Elementary, we will experience the following stories presented by a teacher each year, and complete projects to reinforce their teachings.

- "Coming of the Universe"- The story of the big bang through the formation of Earth.
- "The Coming of Life"- The story of evolution of life on earth.
- "The Coming of Humans"- The story of the evolution of humans and the beginning of civilizations.
- "The Story of Writing": The story of the development of the alphabet and the beginning of written human history.
- "The Story of Numerals": The story of the development of counting systems and mathematics.

<u>History</u>

In Lower Elementary, we learn about:

- major events of the Universe (such as the Big Bang, formation of galaxies, formation of stars, the formation of the Sun and our Solar System, the formation of Earth, the cooling of Earth, and the evolution of life on Earth).
- major periods of the prehistory of Earth.
- the evolution of the six groups of life on earth.
- changes that happened throughout the evolution of species of hominids, the fundamental needs of early humans, and the development of culture.
- the definition of "civilization" and about ancient civilizations and the continents on which it existed.

[2] American Montessori Society, "Montessori Terminology" https://amshq.org/About-Montessori/What-Is-Montessori/Terminology

- the definition of “biography” and discuss the biography of a person that we have read, identifying that person’s impact on history and/or the modern world.

Geography

In Lower Elementary, we learn about:

- the continents, oceans, and globe features such as the equator, international dateline, poles, and tropics
- simple maps with a key, compass rose, and scale that offer a variety of information
- identifying a culture’s location(s) on the globe, how their location affects how people meet their fundamental needs, and discuss similarities and differences in cultures through presentations, experiencing celebrations from a variety of cultures; we complete research about other cultures.
- the 8 biomes of the Earth.
- the rotation of the Earth that causes day and night, the orbit of the Moon that causes moon phases, and the orbit and tilt of the Earth that cause seasons and climatic zones.
- the water cycle.
- water and land forms.

Biology

In Lower Elementary, we learn about:

- evolution as changes within a population of organisms over millions of years that help them survive and adapt.
- the systems of the human body and their functions.
- healthy foods and types of exercise, and their effects on our bodies.
- classification of animals as vertebrates/invertebrates,the class to which they belong and their unique internal and external features.
- angiosperms and gymnosperms.
- plant cells and animal cells.
- the internal and external parts of plants, including those of the reproductive cycle of angiosperms.
- experiments with plants and the fundamental needs of plants.
- the life cycles of classes of vertebrates and of angiosperms.

Physical Science

In Lower Elementary, we learn about:

- designing experiments that follow a simplified scientific method format.

- creating hypotheses and following procedures to complete experiments exploring magnetism, electricity, sound, light, simple machines, cohesion/adhesion, chemistry, etc.

Engineering

In Lower Elementary, we learn about:

- using the engineering cycle to test a variety of designs or materials to solve a problem, given a specific challenge (such as “design a water filter to…”)

Upper Elementary

Maria Montessori urged us to give children a "vision of the universe" to help them discover how all of its parts are interconnected and interdependent, and to help them understand their place in society and the world. In Montessori schools, children in Elementary programs (between the ages of 6 – 12) learn about the creation of the universe through stories that integrate the studies of astronomy, chemistry, biology, geography, and history. These lessons help children become aware of their own roles and responsibilities as humans and as members of society, and help them explore their "cosmic task"—their unique, meaningful purpose in the world.[3]

<u>The Great Lessons (aka Cosmic Stories)</u>

- "The Great River": a story about the systems of the human body and the interdependence of its parts.

<u>History</u>

In Upper Elementary, we learn about:

- the migration paths of early humans using a globe or map.
- ancient civilizations, their locations, how they met their fundamental needs, and how this was influenced by their biome and the time in which they lived. (4th)
- the three phases of human history (nomadic, agricultural, urban).
- using a BCE/CE timeline.
- the Middle Ages.
- the Renaissance.
- the Native American groups of North America, how they were influenced by the region and biome in which they lived, and how they met their fundamental needs. (5th)
- European explorers. (5th)
- European settlement from both a Native American and European settler point of view. (5th)
- major events throughout American History, including factors such as historical context and point of view, such as: (6th)
    - the American Revolution
    - territories, westward expansion, and the process of statehood
    - the American Civil War
    - the Industrial Revolution, modern civilization, and globalization
- US Government and its checks and balances (6th)

[3] American Montessori Society, "Montessori Terminology" https://amshq.org/About-Montessori/What-Is-Montessori/Terminology

- inventions that had a large impact on humanity and their inventors.
- Indiana history through works such as timelines, maps, and trips to historic or governmental sites. (4th)
    - using primary resources to answer historical questions
- Indiana's state government. (4th)
- different government structures and identify examples from around the world.
- current events from multiple points of view and in cause and effect models.
- world religions and their major beliefs.

<u>Economics</u>
In Upper Elementary, we learn about:

- trade and barter systems and identify how they impacted relations between individuals and groups.
- imports v. exports and globalization v. nationalism in terms of economics.
- finite resources we depend on, such as natural resources, and how scarcity of resources can lead to negotiation and conflict.
- a variety of economic systems, identifying examples from around the world.

<u>Geography</u>
In Upper Elementary, we learn about:

- the movement of the Sun, planets, and Earth's moon in our Solar System.
- climatic zones and describe what types of life are likely to be found there (adaptations)
- the water cycle and sources of pollutants and their entry points into the cycle.
- other cultures through expert or first-hand speakers, experiences, and resources.
- the processes of weather and erosion.
- processes and phenomena of the Earth using the Functional Geography impressionistic charts.
- the rock cycle and classifying rock samples.

After the third year of Upper Elementary, **we can**:

- identify the 50 US states and capitals.
- name countries of each continent and their national capitals.
- map world examples of water and landforms, interpreting a variety of maps as resources.

<u>Biology</u>
In Upper Elementary, we learn about:

- the 6 groups of life.
- the functions and processes of plant reproduction for both angiosperms and gymnosperms.
- taxonomic relationship between animals.
- the parts of animal and plant cells and their functions.
- the processes of a plant (photosynthesis, respiration, transpiration) and related structures and functions.
- the systems of the human body and major parts of each system with functions, as well as habits that promote the health of each system.
- healthy, affordable, balanced snacks and meals using the Harvard My Plate template.
- well-balanced regimens of physical activity to build flexibility, strength, stamina, coordination.
- characteristics of healthy and unhealthy relationships and possible actions to create positive change within relationships.

<u>Physical Science</u>
After our third year in a BMS Upper Elementary classroom, **we can:**

- design and complete experiments (following the scientific method format) with one variable and a control to help answer a question

<u>Engineering</u>
After our third year in a BMS Upper Elementary classroom, **we can:**

- use the engineering cycle to solve a problem, conceiving and testing multiple original solutions with isolation of variables.

READING

Early Childhood

Concepts of Print

After our third year in a BMS Early Childhood classroom, **we can:**

- Demonstrate understanding that print moves from left to right and top to bottom by tracking with our eyes or finger
- Verbally differentiate between a letter, word, and sentence when shown and explain that words are made of letters and sentences are made of words
- List the vowels of the alphabet
- Uses picture and context clues to aid in understanding of texts
- Identify the title, author, and illustrator of a book and their purposes
- Differentiate between fiction and nonfiction

Phonemic Awareness

After our third year in a BMS Early Childhood classroom, **we can:**

- Verbally identify and produce rhyming words
- Verbally manipulate words by changing, adding, or deleting the initial, medial, final sound or rime of a given word
- Name and identify the sounds most commonly associated with the letters of the alphabet when shown both upper and lower case letters
- Identify the number of sounds, order of sounds, and isolated sounds of words with three phonemes when shown a word or picture
- Identify short vowel sounds associated with each vowel

Decoding

After our third year in a BMS Early Childhood classroom, **we can:**

- Blend CVC three-letter words when shown the word in print
- Break down a three-phoneme word into sounds and represent with appropriate letters in writing when given a picture or verbal word
- Read emergent reader texts (F&P level D) with appropriate pace and demonstrating self-correction and comprehension strategies
- Verbally read 20 high-frequency sight words when shown the word in a list (https://lincs.ed.gov/readingprofiles/Dolch_Basic.pdf)

Fluency

After our third year in a BMS Early Childhood classroom, **we can:**

- Read emergent texts (F&P level D) in 2-3 word phrases, such as with pattern reading
- Reflect awareness of sentences in reading by pausing at ending punctuation

Comprehension

After our third year in a BMS Early Childhood classroom, **we can:**

- Discuss stories read together or aloud including asking and answering questions about key details, retelling stories, identifying elements (such as characters, setting, problem, solution, events, nonfiction concepts), making predictions, and comparing stories
- identify supporting details of an idea in a nonfiction text.

Lower Elementary

Concepts of Print

After our third year in a BMS Lower Elementary classroom, **we can:**

- Understand that words are made of letters, sentences are made of words, paragraphs are made of sentences, and essays and stories are made of paragraphs
- Navigate a nonfiction text using the table of contents, headings, captions, illustrations, index, and glossary to find or clarify information
- Categorize texts into groups such as fiction/nonfiction, poetry/narrative, and genres (biographies, mysteries, etc.)
- Discuss the author's purpose for writing a given text
- List, define, and identify within a text craft tools authors use to engage or assist readers (such as imagery, repetition, headings, etc.)

Phonemic Awareness

After our third year in a BMS Lower Elementary classroom, **we can:**

- Break multi-syllabic words into syllables
- Demonstrate a variety of sound substitutions, including those that identify root words and prefixes/suffixes
- Identify rhyming patterns in poems or songs using letter labels (ie ABAB)

Decoding

After our third year in a BMS Lower Elementary classroom, **we can:**

- Independent of context, fluently identify, segment, and blend sounds and read multi-syllabic words, demonstrating knowledge of
    - spelling patterns such as short and long vowel syllable patterns (CVC, CVr, V, VV, VCe, Cle), blends/consonant and vowel digraphs/diphthongs, consonant doubling, -y to -ies, word families (such as -ight) and r-controlled vowels
    - Morphology such as Roots and affixes
    - Contractions and possessives
- Recognize and read a list of 220 high-frequency sight words (https://lincs.ed.gov/readingprofiles/Dolch_Basic.pdf)
- Read grade-level appropriate (F&P level P) texts

Fluency

After our third year in a BMS Lower Elementary classroom, **we can:**

- Read grade-level appropriate texts (F&P level P) with phrasing and pauses for punctuation, expression, and reasonable pace

Comprehension

After our third year in a BMS Lower Elementary classroom, **we can:**

- Independently respond to comprehension questions about fiction and nonfiction texts that require us to
    - ask and answer concrete and inferential comprehension questions, including questions about feelings/motivations
    - Identify the characters, setting, and plot/events
    - paraphrase/summarize a story following the overall structure (beginning introduces the characters and setting, middle introduces an action or problem, ending concludes the action or solves the problem
    - identify the main idea/theme
    - make predictions
    - support idea with details from the text
    - Compare and contrast settings, events, and/or characters in one or more stories
- discuss the organizational structure of a nonfiction text, such as compare/contrast, sequential, chronological, problem/solution, cause/effect, etc.
- distinguish between fact and opinion
- practice using context clues to understand unfamiliar words or graphics
- identify figurative language such as metaphor, simile, and hyperbole and the author's purpose and meaning
- identify and define content-specific vocabulary in nonfiction texts using tools such as context clues, glossaries, and dictionaries if needed
- Discuss the purpose of media messages (information, entertainment, persuasion, interpretation, etc.) and the target audience.

Upper Elementary

Fluency

After our third year in a BMS Upper Elementary classroom, **we can:**

- Orally read grade-level appropriate (F&P Level Y) or higher text smoothly, accurately, and with expression

Comprehension

After our third year in a BMS Upper Elementary classroom, **we can:**

- Discuss the characters, setting, themes, and events of a text using specific details from the text to support ideas
- Ask and answer questions about a text including concrete comprehension, inference, and making predictions based on details in the text and prior knowledge
- Compare and contrast stories from different genres
- Summarize themes, supporting details, and plots of a text or speaker.
- Review claims made by various types of media and evaluate evidence used to support these claims

LANGUAGE ARTS

Early Childhood

Letter Formation

After our third year in a BMS Early Childhood classroom, **we can:**

- legibly write in manuscript, including both capital and lowercase letters.
- write from left to right and top to bottom.

Mechanics

After our third year in a BMS Early Childhood classroom, **we can:**

- capitalize the first letter of a sentence and names.
- end sentences with a period.

Word Study

After our third year in a BMS Early Childhood classroom, **we can:**

- spell three letter short-vowel words when shown a picture or given a word verbally.

Grammar

- describe the role of a noun and verb, identify the part of speech of given familiar nouns and verbs, and generate their own examples.

Writing Structure

After our third year in a BMS Early Childhood classroom, **we can:**

- write original and paraphrased sentences that include a subject and predicate, with inventive spelling, demonstrating knowledge of letter sounds.

Writing for a Purpose

After our third year in a BMS Early Childhood classroom, **we can:**

- paraphrase text resources and lessons to generate short non-fiction writing about a research topic.
- journal using a combination of sentences, pictures, and words.
- create posters to convey information on a given topic.
- tell stories that go along with a drawn or given picture that include characters and events.
- with support, complete simple revisions to written work.

Lower Elementary

Letter Formation

After our third year in a BMS Lower Elementary classroom, **we can:**

- generate easily legible writing in both manuscript and cursive, including both capital and lower case letters and with correct orientation to the line and spacing.
- demonstrate home-row hand position when typing.

Mechanics

After our third year in a BMS Lower Elementary classroom, **we can:**

- capitalize letters including proper nouns and the beginning of sentences.
- use ending punctuation for sentences including the period, exclamation point, and question mark.
- use commas to denote a list, to address people, or after an introductory word or phrase when writing sentences.
- use commas in dates, addresses, and greetings and closings of letters.
- use apostrophes to denote singular and plural ownership and contractions.

Word Study

After our third year in a BMS Lower Elementary classroom, **we can:**

- define and match homophones, homonyms, homographs, synonyms, and antonyms of an appropriate vocabulary level.
- identify common prefixes and suffixes and how they change the meaning of a word.
- spell common sight words, phonetic words (including those that follow common long vowel rules such as silent e and double vowels), and familiar word families (such as -ight).
- apply spelling rules for adding suffixes to familiar words, such as doubling the final consonant, dropping a silent e, or changing a “y” to “i”.

Grammar

After our third year in a BMS Upper Elementary classroom, **we can:**

- name and describe the eight parts of speech and identify the part of speech of each word in a given sentence.
- craft sentences that demonstrate recognition of regular and irregular verbs in simple verb tenses and distinguish between action and linking verbs.

- use appropriate pronouns after antecedents.

Sentence Analysis

After our third year in a BMS Lower Elementary classroom, **we can:**

- discuss the subject, predicate, direct object, and indirect object of a sentence, or generate an original sentence with these parts.
- recognize sentence fragments and run-ons.

Writing Structure

After our third year in a BMS Lower Elementary classroom, **we can:**

- write using a variety of sentence structures (simple, compound, complex).
- build paragraphs with a topic sentence and related supporting details.
- author 5-paragraph essays about a familiar topic that contain an introductory paragraph, 3 body paragraphs, and a conclusion paragraph.
- write a simplified bibliography

Writing for a Purpose

After our third year in a BMS Lower Elementary classroom, **we can:**

- write friendly letters
- write short, well-organized research using the 5-paragraph format and synthesizing information from text resources based on a research question, as well as enhancing writing with visuals such as pictures or graphics.
- journal or free-write on a given or original topic, including multiple related sentences that demonstrate spelling and mechanics knowledge.
- author stories in a variety of genres (mystery, fantasy, etc.) that include a beginning, middle, and end and describe the characters and setting.
- with support, edit writing for conventions and craft, and use available technology to publish documents (including typed papers and slide shows)
- present writing to an audience with appropriate volume, intonation, and content.
- compare and contrast information in Venn diagrams.

Upper Elementary

Letter Formation

After our third year in a BMS Upper Elementary classroom, **we can:**

- type using home-row fingering and a productive pace.

Mechanics

After our third year in a BMS Upper Elementary classroom, **we can:**

- use commas to separate two independent clauses or dependent clause followed by an independent clause, or for appositives and coordinating adjectives.
- denote dialog with quotation marks and related punctuation, with dialogue tags in a variety of placements.
- use semicolons to connect main clauses and colons to introduce a list or quotation.
- use parentheses, dashes, or commas to denote nonrestrictive or parenthetical elements.

Word Study

After our third year in a BMS Upper Elementary classroom, **we can:**

- apply known rules of morphology to deconstruct unfamiliar words or modify root words.
- discuss the etymology and meaning of common prefixes and roots, and use this information to hypothesize the meaning of unfamiliar words.
- write sentences that reflect correct verb conjugation for all tenses.

Grammar

After our third year in a BMS Upper Elementary classroom, **we can:**

- name the coordinating conjunctions and tell what types of clauses are joined by coordinating and subordinating conjunctions, and use them appropriately in writing.

Sentence Analysis

After our third year in a BMS Upper Elementary classroom, **we can:**

- analyze sentences, including those with more than one clause and/or phrases (such as adverbial, adjectival, and prepositional phrases).

Writing Structure

After our third year in a BMS Upper Elementary classroom, **we can:**

- write expository, persuasive, narrative, and descriptive essays using the 5-paragraph format as a baseline.
- support statements in writing with qualitative and quantitative facts gathered from multiple sources, including quotes and citations.
- use appropriate vocabulary and sentence variety, structure, and transitions to provide appropriate "flow" and "voice" for writing.
- enhance or support writing through addition of a variety of graphics and illustrations that convey meaning.
- self-edit writing for conventions and revisions based on purpose, and publish work with a variety of available technology formats and related conventions.
- generate common MLA bibliographies and simple citations.

<u>Writing for a Purpose</u>

After our third year in a BMS Upper Elementary classroom, **we can:**

- write formal and informal letters.
- write stories in a variety of genres that incorporate essential elements such as character, setting, plot (event sequence/climax), dialogue, imagery, narrator/point of view, and resolution.
- write presentations for a variety of purposes, designed for an audience, including engagement tools such as hooks and multimedia.
- create arguments that have a clearly identifiable organization (such as compare and contrast or cause and effect), and support claims with precise evidence from credible sources.

ARITHMETIC

Early Childhood

Numeration

After our third year in a BMS Early Childhood classroom, **we can:**

- demonstrate concept of "zero" with counters.
- combine and count items to demonstrate understanding of + and =.
- compare two sets of numbers, identifying "larger" and "smaller" quantities.
- read and copy a number up to 9,999 represented with materials/numerals.
- count verbally and write legibly numbers 1-20.
- identify, order, and name numbers up to 100 with materials.
- skip count by 10's to 100, 2's to 20, and 5's to 50.

Place Value

After our third year in a BMS Early Childhood classroom, **we can:**

- exchange materials for equivalent quantities within place values of units through thousands.
- given number cards, we can provide the associated quantity (with materials) of the numeral of any number up to 9,999.

Operations

After our third year in a BMS Early Childhood classroom, **we can:**

- we can accurately complete static addition with the golden bead materials.
- we can explain or demonstrate that multiplication is adding sets of a number (with materials).
- we can explain or demonstrate that subtraction is "taking away" (with materials).
- we find addition facts up to 10 +10 with materials and recognize combinations of 10.

Maal Mathmatical Mind

After our third year in a BMS Early Childhood classroom, **we can:**

- demonstrate willingness to estimate answers to math problems.
- complete the pattern, count on, or identify "one more" or "one less" when given a set of numbers.

Applied Mathematics

After our third year in a BMS Early Childhood classroom, **we can:**

- count everyday objects and answer "how many".

Fractions, Decimals, and Percents

After our third year in a BMS Early Childhood classroom, **we can:**

- demonstrate with materials that a fraction is less than a whole.
- name fractions up to one fourth when shown a material representation.

Money

After our third year in a BMS Early Childhood classroom, **we can:**

- identify the name and value of a penny, nickel, dime, quarter, and one dollar bill.

Radicals and Exponents

After our third year in a BMS Early Childhood classroom, **we can:**

- identify the relationship demonstrated by the squaring chains (ie 7 sevens).
- manipulate the square and cube chains of the bead cabinet to create a square or stack a cube.

Data and Graphing

After our third year in a BMS Early Childhood classroom, **we can:**

- differentiate materials by length.
- manipulate materials laid out in a grid.

Algebra

After our third year in a BMS Early Childhood classroom, **we can:**

- sensorially solve the binomial and trinomial cube puzzles.

Measurement

After our third year in a BMS Early Childhood classroom, **we can:**

- demonstrate understanding that various qualities of an object or set of objects can be measured by use of an appropriate tool.
- read numerals on the digital thermometer and associate them with weather-appropriate clothing.
- identify which of two items is “longer” or “shorter” using visual discrimination.
- identify which of two items is “heavier” or “lighter” using our hands or a balance.

Time

After our third year in a BMS Early Childhood classroom, **we can:**

- differentiate between day and night or morning and afternoon.
- associate changes in temperate forest (local) nature with the seasons.
- verbally tell time to the hour when looking at an analog or digital clock face.
- name the months of the year, days of the week, and four seasons in order.

Lower Elementary

Numeration

After our third year in a BMS Lower Elementary classroom, **we can:**

- explain the concept of infinity as it relates to numbers.
- explain and demonstrate (with materials) the meaning of operational symbols (+, -, x, ÷) and comparison symbols (<, >, =) as well as exponents and the radical.
- when given a number, read and write numerals and count on from numbers including place values from millions to thousandths.
- write any number word phrase for numbers from zero to one thousand, and hierarchies up to one million.

Place Value

After our third year in a BMS Lower Elementary classroom, **we can:**

- explain the relationship between any place values between thousandths and millions, including non-adjacent place values (for example, there are 1000 tenths in a hundred).
- round a given number (from one to 4 digits) to a given place value.
- identify the place value of any given digit in a number between millions and thousandths.

Operations

After our third year in a BMS Lower Elementary classroom, **we can:**

- explain reciprocal relationships of operations (addition and subtraction or multiplication and division) and how this can be used to "prove" an answer to a math problem.
- demonstrate automaticity of mixed fact sets of addition, subtraction, multiplication, and division through 10.
- solve abstract dynamic addition and subtraction with numbers up to millions.
- solve multiplication problems with two-digit multipliers using materials.
- solve abstract multiplication problems with a one-digit multiplier (and four-digit multiplicand) and division problems with a one-digit divisor (and four-digit dividend).

Mathematical Mind

After our third year in a BMS Lower Elementary classroom, **we can:**

- verbalize three ways to solve a given math problem mentally.
- explain and demonstrate that estimation is a justifiable guess of a quantity or answer.
- demonstrate mathematical stamina to complete a set of math problems with consistent focus and effort at an appropriate level of challenge.

- define and give examples of prime numbers.
- synthesize mathematical understandings to solve a multi-step math problem (abstractly).
- volunteer regularly and comfortably to answer math questions during groups or lessons and explain strategies.
- regularly and independently cycle back to correct an error in a math problem.
- identify multiples of numbers from 1-20, going up to 100.
- find a complete list of factors of numbers up to 100.
- identify and complete patterns, or apply a given pattern (such as 10 more or 10 less) to a given number.

Applied Mathematics

After our third year in a BMS Lower Elementary classroom, **we can:**

- identify and apply key words to solving word problems.
- complete two-step word problems using any operation, giving a properly labeled answer.

Fractions, Decimals, and Percents

After our third year in a BMS Lower Elementary classroom, **we can:**

- add and subtract fractions with unlike denominators (with materials).
- convert between proper (mixed numbers) and improper fractions and reduce fractions to lowest terms (with materials).
- we can use correct nomenclature for the parts of a fraction, describe our relationship, and supply a real-world example.
- given any fraction, student can read, write, or demonstrate the fraction with materials .
- solve dynamic addition and subtraction problems that include decimals (up to thousandths) with materials.
- multiply fractions and mixed numbers by whole numbers with materials.

Money

After our third year in a BMS Lower Elementary classroom, **we can:**

- participate in group budgeting discussions including concepts such as spending, saving, and prioritizing.
- count, exchange, and make change with currency (both coins and dollars).

Radicals and Exponents

After our third year in a BMS Lower Elementary classroom, **we can:**

- create next successive squares given any square (up to 20).
- demonstrate and explain how to square and cube a number.

Data and Graphing

After our third year in a BMS Lower Elementary classroom, **we can:**

- create and interpret a bar graph, line graph, and pie chart.

Algebra

After our third year in a BMS Lower Elementary classroom, **we can:**

- Understand that a variable represents an unknown number, and that this can be represented with letters.
- we can create and solve one-step equations with one variable, using all four operations.

Measurement

After our third year in a BMS Lower Elementary classroom, **we can:**

- use appropriate tools to measure and record data in standard and non-standard units of measurement.

Time

After our third year in a BMS Lower Elementary classroom, **we can:**

- tell time verbally and in writing when shown a time on a digital or analog clock.
- verbally estimate the passage of time with reasonable accuracy and use time-specific vocabulary.
- calculate passage of time, and project what time it will be after a given amount of time passes.

Upper Elementary

Numeration

After our third year in a BMS Upper Elementary classroom, **we can:**

- Read and write in words or numerals numbers including hierarchies from the billionths to billions.

Place Value

After our third year in a BMS Upper Elementary classroom, **we can:**

- if given a value on the decimal board, explain equivalencies with non-adjacent place values.
- explain when you would use scientific notation and give an example.
- round any number to any place value within a number containing trillions to billionths.
- write a number as a numeral, in expanded notation, or in words if given any number.
- student can translate from any base system (1-9) to base 10, below a value of 100.

Operations

After our third year in a BMS Upper Elementary classroom, **we can:**

- abstractly divide with a three-digit divisor and check answers using multiplication.
- complete 50 math facts in 2 minutes accurately in all four operations.
- perform all operations with negative numbers.

Mathematical Mind

After our third year in a BMS Upper Elementary classroom, **we can:**

- demonstrate willingness to address corrections and persevere through challenge with mathematical problems.
- demonstrate risk-taking, flexibility, and the ability to recognize multiple solutions for math problems.

Applied Mathematics

After our third year in a BMS Upper Elementary classroom, **we can:**

- estimate answers with reasonable accuracy and/or solve three-step real-world problems with any operation, using the proper units.
- create and solve equations with one variable to address real-world problems.
- write inequalities to represent real-world constraints.

Fractions, Decimals, Ratios, and Percents

After our third year in a BMS Upper Elementary classroom, **we can:**

- explain relationships between fractions, ratios, decimals, and percents and give examples.
- when given any fraction/ratio, decimal, or percent, convert to an equivalent fraction, decimal, or percent.
- solve real-world problems in all four operations that contain fractions, ratios, decimals, and percentages.
- define and identify greatest common factors and least common multiples and use to solve fractions problems.

Money

After our third year in a BMS Upper Elementary classroom, **we can:**

- explain the difference between a loan and a savings account in terms of interest.
- explain the purpose of a budget and process of prioritizing, planning, and saving.
- solve a problem for simple interest for one 'term'.

Radicals and Exponents

After our third year in a BMS Upper Elementary classroom, **we can:**

- illustrate and explain the meaning of 'root' in terms of exponents.
- when given any base number and exponent, solve for actual value.
- when given a number below 1000, calculate the square root and cube root (with materials).

Data and Graphing

After our third year in a BMS Upper Elementary classroom, **we can:**

- generalize use of axes labels and keys to interpret data from a variety of graphics.
- create visuals such as line plots, histograms, and box plots to organize numerical data; summarize numerical data in a variety of ways.
- explain the meaning and use of, as well as calculate, mean, median, and mode when given a set of data.
- plot ordered pairs in a coordinate plane.

Algebra

After our third year in a BMS Upper Elementary classroom, **we can:**

- explain that the absolute value of a number is its distance from zero and state the absolute value of a given number.
- differentiate between linear growth and exponential growth.
- plot positive and negative whole and partial numbers on a number line.
- create and solve multi-step equations with one variable or two variables with a proportional relationship.
- define and demonstrate the order of operations and algebraic properties by applying them to the solution of an algebraic equation and justifying each step.

Measurement

After our third year in a BMS Upper Elementary classroom, **we can:**

- measure any length, temperature, weight/mass, and volume in US standard and metric systems, as well as convert within systems.

Time

After our third year in a BMS Upper Elementary classroom, **we can:**

- solve problems including rates over a given time.
- calculate time passage for given years on a BBE/CE timeline.

GEOMETRY

Early Childhood

Sensorial (Essential Foundational Skills)

Maria Montessori (1967, p.145) said that sensorial training "makes a man an observer." Neuroscientist Dee Coulter (2007) asserts that what makes a person brilliant is his or her ability to pay attention to details that others have missed...If the refined senses allow us to observe astutely and completely, it is clear that this is an integral part of the development of the mind. The sensorial area is perhaps the most distinct part of the Montessori classroom...it is based on Montessori's theory that refinement of the senses is integral to future education (Montessori, 1967).

These essential foundational skills nurtured through the sensorial curriculum build a sense of organization that helps children make sense of their world, and are the precursors to more complex categorization, gradation, differentiation, and matching necessary in many studies. These observational skills must be developed before more advanced categorization of one's world (biology, geometry, grammar, etc.) can be effectively learned.[4]

Dimension

In Early Childhood, we practice:

- differentiation, gradation, matching, and combination of dimension by manipulating a variety of objects (such as the pink tower, brown stair, and knobless cylinders).

Visual

In Early Childhood, we practice:

- matching and grading color hues.

Auditory

In Early Childhood, we practice:

- differentiating, grading, and matching sounds.
- using bells or other instruments to create, match, and grade pitches.
- making and observing silence.

[4] Eve Cusack, "Sensorial Rationale", 2007

Tactile

In Early Childhood, we practice:

- differentiating and grading objects by texture, temperature, and weight.
- identifying familiar objects using only the sense of touch (stereognostics).

Olfactory and Gustatory

In Early Childhood, we practice:

- matching samples by scent or taste.
- categorizing samples by taste.

Geometric Shape

In Early Childhood, we practice:

- exploration of shapes and combinations of shapes with geometry boxes (such as the triangle, hexagon, and rectangular boxes).

Geometric Form

In Early Childhood, we practice:

- naming geometric solids.
- building the binomial cube.

Lower Elementary

Foundational concepts

In Lower Elementary, we practice:

- categorizing and defining points, lines, surfaces and solids.
- defining symmetry and asymmetry and providing examples.
- comparing congruence, similarity, and equivalence and creating an example.
- discussing how a shape can look different when its position in space is manipulated, and identifying actions such as flips, turns, and slides.

Line

After our third year in a BMS Lower Elementary classroom, **we can:**

- discuss types of lines, positions of lines, and relationships between two or three straight lines.
- identify parts of an angle and categorize angles as acute/right/obtuse
- measure a line in standard and metric units to the nearest fourth of a unit.

Shape

After our third year in a BMS Lower Elementary classroom, **we can:**

- Name, illustrate and explore triangles, quadrilaterals, regular polygons, and curved figures.
- Name and define the “seven triangles of reality”
- name the parts of polygons, and discuss how we can use this information to classify them.
- use constructive triangles to create stars with up to twelve points or polygons with up to twelve sides.
- calculate the perimeter of a quadrilateral or triangle with sides measured in whole numbers.
- calculate the area of a square and rectangle with whole number measurements.

Form

After our third year in a BMS Lower Elementary classroom, **we can:**

- name geometric solids and identify some of the shapes of their planes.
- draw a geometric form in a way that shows observation of shadow and light in relation to a 3-dimensional object.

Tools

After our third year in a BMS Lower Elementary classrooms, we can:

- Use a compass to create a circle
- Use a straight edge and set square to create straight lines and right angles
- measure an isolated angle with a protractor.

Upper Elementary

Foundational Concepts

After our third year in a BMS Upper Elementary classroom, **we can:**

- categorize and define points, lines, shapes (or planes or surfaces) and form (or solids).
- define symmetry and asymmetry and provide examples.
- compare congruence, similarity, and equivalence and create an example.
- discuss how a shape can look different when its position in space is manipulated, and identify actions such as flips, turns, and slides.

Line

After our third year in a BMS Upper Elementary classroom, **we can:**

- discuss types of lines, positions of lines, and relationships between two or three straight lines.
- identify parts of an angle, categorize angles as acute/right/obtuse, and measure one isolated an angle with a protractor.
- measure a line.
- use relationships between angles (such as adjacent angles, vertical angles, complimentary angles, and supplementary angles) to draw conclusions about the measurement of unknown angles when given the value of one or more of the angles.

Shape

After our third year in a BMS Upper Elementary classroom, **we can:**

- name and explore triangles, quadrilaterals, regular polygons, and curved figures.
- use correct nomenclature to discuss the parts of polygons, and discuss how we can use this information to classify them.
- identify that the sum of the angles of triangles is 180-degrees and the sum of the angles of quadrilaterals is 360-degrees and use this information to solve problems.

Form

After our third year in a BMS Upper Elementary classroom, **we can:**

- name geometric forms and identify some of the shapes of our planes.
- draw a geometric form in a way that shows observation of shadow and light in relation to a 3-dimensional object.
- calculate the volume of a rectangular prism.
- use nets to compute surface area of prisms.

FINE ARTS

Early Childhood

Music

In Early Childhood, we practice:

- Creating higher and lower pitches in a limited range with instruments and voice when guided with example sounds
- echoing, creating, and playing melodic patterns with voice and instruments
- echoing, creating, and playing 4-beat rhythmic patterns with body percussion or instruments
- maintaining a steady beat in a group
- singing short memorized songs
- experiencing a variety of live and recorded music

Visual Arts

In Early Childhood, we practice:

- discussing (with appropriate vocabulary) a variety of visual arts
- expressing personal ideas, interests, and feelings through art
- demonstrating thoughtfulness and care when creating art
- manipulating a variety of tools such as brushes, scissors, and glue applicators to create art
- using a variety of mediums to create art
- identifing shapes and form in art (2D, 3D)
- experimenting with and discussing color relationships (primary and secondary colors)

Performance Arts

In Early Childhood, we practice:

- experiencing live theater
- performing a skit or song for a group
- using movement to enhance a song

Lower Elementary

Music

In Lower Elementary, we practice:

- Singing with accurate pitch within a limited range and with varied dynamics (a capella and with accompaniment)
- singing songs that include languages other than English and folk songs or dances from a variety of cultures
- playing classroom instruments with given melodies and patterns, as well as improvisation (such as xylophones, recorders, keyboards, or ukuleles)
- reading simple notated music in treble clef including notes and rests
- identifying musical instruments by our sound and family
- experiencing and discussing live and recorded music

Visual Arts

In Lower Elementary, we practice:

- differentiating between representational and abstract art
- classifying landscapes, portraits, still life, and abstract
- creating art based on objects from the real world as subject matter and/or to express personal ideas, interests, and feelings
- demonstrating concentration and stamina when creating art, share art, and respect the art of oneself and others
- defining principles of art, elements of art, and study of space and discussing our in relation to our own art and the work of other artists
- demonstrating basic techniques with a variety of mediums and proper care of tools used in creation of art
- creating a secondary colors when provided primary pigments

Performance Arts

In Lower Elementary, we practice:

- identifying elements of theater (character, costume, setting, plot)
- improvising dramatization of stories
- Performing one act plays
- using classroom materials to create visual “setting” for a skit or play
- exploring the use of sound effects to create feeling and mood
- performing skits or plays to explore a concept from another discipline

- giving a speech with appropriate volume, intonation, and body language

Upper Elementary

Music

In Upper Elementary, we practice:

- singing with accurate pitch, appropriate tone quality, and varied dynamics a capella and with accompaniment
- singing songs in the languages of other countries
- following cues of a conductor (tempo and dynamics)
- playing classroom ensemble music with instruments such as recorders, bells, or ukulele
- creating music collaboratively to enhance a poem or short story using a variety of sound sources
- composing a melody to match given lyrics, or compose lyrics to match a given melody
- arranging and notating (4/4 time including notes and rests in treble clef) a short piece cooperatively in small groups with instruments, percussion, and voice
- identifying AB, ABA, and rondo forms
- establishing criteria to evaluate classroom music activities
- identifying music styles and instruments by our sounds and families
- experiencing and discussing a wide variety of live and recorded music

Visual Arts

In Upper Elementary, we practice:

- demonstrating basic techniques with a variety of mediums (such as wet-on-wet, wet-on-dry, sponge, wash, and resist with watercolors) and proper care of tools used in creation of art
- exploring and differentiating between printmaking processes, such as stamping, monoprint, rubbings, stenciling, and relief)
- exploring and differentiating between ceramic processes such as pinch and pull forms, slab, imprint decoration, coil, surface decoration, and carving)
- creating art using technology
- engaging in critique, reflection, and revision of art

- creating a color wheel including primary, secondary, and tertiary colors when given primary-color paint
- appreciating art as a reflection of culture and responding to/discuss a work of art
- discussing the role of an artist and study the works of an artist as a collection

Performance Arts

In Upper Elementary, we practice:

- performing folk songs and dances from other cultures
- Creating stories to perform as plays or skits
- Creating scenery for, rehearse, and performing a multi-scene play (including musical accompaniment with voice and instruments or sound effects and lighting to create mood)
- giving a speech with appropriate volume, intonation, and body language