# Lower EL 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

## **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

- 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**

- 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.

#### INTRAPERSONAL

## 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**

## (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.

#### **Spiritual Awareness**

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.

## COSMIC EDUCATION

## **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.'

## The Great Lessons (aka Cosmic Stories)

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.

#### History

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.

<sup>&</sup>lt;sup>1</sup> American Montessori Society, "Montessori Terminology" https://amshq.org/About-Montessori/What-Is-Montessori/Terminology

- 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.
- 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...")

## READING

## 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**

- 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
  - $\circ \quad \text{Morphology such as Roots and affixes} \\$
  - Contractions and possessives
- Recognize and read a list of 220 high-frequency sight words (<a href="https://lincs.ed.gov/readingprofiles/Dolch\_Basic.pdf">https://lincs.ed.gov/readingprofiles/Dolch\_Basic.pdf</a>)
- 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

- 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
  - o identify the main idea/theme
  - o make predictions
  - o 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.

## LANGUAGE ARTS

## 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

- 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.

## **ARITHMETIC**

## **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**

- 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.

#### <u>Time</u>

- 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.

## **GEOMETRY**

## 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

- 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**

- 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.

## **FINE ARTS**

## **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

- 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