

# GREENE TOWNE MONTESSORI SCHOOL

## Curriculum Scope and Sequence



## INTRODUCTION

*Background of Montessori Education*  
Maria Montessori, an Italian physician, developed what is now called the Montessori Method at the beginning of the 20<sup>th</sup> Century. She preferred to call her work “scientific pedagogy,” because she approached her work with children in the same way she approached medical research – scientifically, through experimentation, observation, analysis, and revised action steps.

Montessori was galvanized by her discoveries about the nature and the aptitudes of very young children. She was awed by their abilities, and developed a deep respect for the remarkable effort that goes into growing up.

Montessori observed that children are seriously and intensively engaged in the work of building a new and unique human being. In line with this view, she believed that adults are responsible for supporting and strengthening what is already in a child, rather than following the existing educational model, which viewed children as formless beings who must be molded by adults.

Throughout her life, Montessori was vigorous in her efforts to bring children the very best: beautiful physical environments, carefully crafted learning tools designed to meet children’s developmental needs at each age level, and trained adults who would inspire and lead children, grant them freedom and treat them with respect.

Montessori schools now operate on every continent on the globe (with the possible exception of Antarctica), and even after a century, Montessori’s work informs and inspires both adults and children. Many present-day researchers and educators are discovering that Montessori’s “scientific pedagogy” is

indeed supported by science. Research on brain development (including brain imaging), human motivation, and early childhood development confirms many of Montessori's deductions about the nature of child development and the learning process.

### *Pedagogy*

The Montessori curriculum is interdisciplinary, intended to challenge children physically, intellectually, socially, and emotionally. The classroom environments, arranged to be both functional for children and aesthetically pleasing, have low, open shelves of learning materials that entice children to explore, learn, and exercise their growing abilities.

Learning materials are visually appealing, easy for children to use independently, and include an auto-feedback component, allowing children to self-evaluate their work, rather than depending on adult evaluation.



### *Age Groupings*

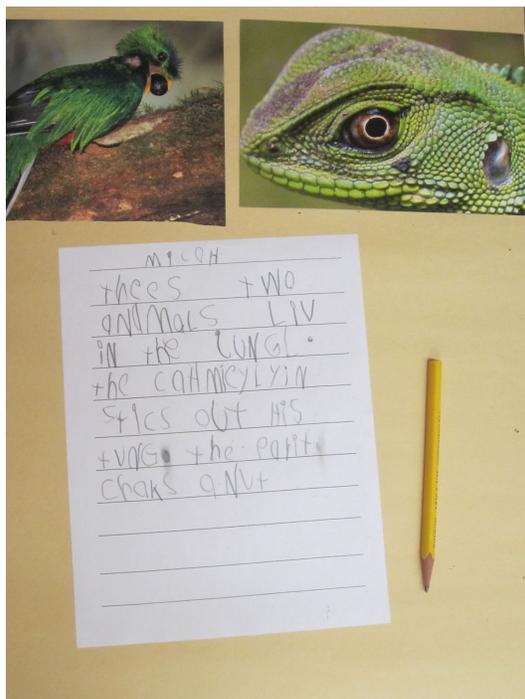
Multi-age grouping is a fundamental to Montessori education, with groupings organized by developmental stages. Toddlers (18 months-3 years) require an environment and pedagogical approach that is fundamentally different from that of Primary children (3-6 years).

The materials and lessons at each level have similarities, preparing younger children for the experiences they will encounter at the next level, while also meeting their current developmental needs.

Montessori schools aim to create a continuum of learning from one level to the next, giving children the pleasure of familiarity and the excitement of new challenges as they grow.

Multi-age groupings also give children the advantage of learning from both older and younger peers. Younger children pick up a great deal of knowledge through proximity to older children's activity, and older children cement their knowledge base by helping or instructing younger children.

The mixed-age classroom setting helps children to learn to act as members of a community, helping others and taking responsibility for their own actions.



### *Montessori Teachers*

Montessori teachers, also known as “guides,” have undertaken intensive training in the Montessori curriculum. They are quietly observant, but also active and engaged as the children move freely about the classroom, providing hands-on lessons with the materials to individuals or small groups of children, and assisting anyone who needs help to repeat the work that has been demonstrated.

Teachers/guides are trained to be acute observers, and are constantly ready to revise their approach to a child or a group of children, based on their observations of the children’s behavior, conversation, and expressed interests.

Montessori teachers/guides provide children with guidance and support throughout the day, redirecting activity when children become restless, introducing new work when a child has achieved mastery at a particular level, and giving children room to work without interruption when they are independently engaged.

A Montessori teacher/guide must be organized, structured, able to support and encourage free-flowing activity, and flexible. Above all, she or he must have a fundamental respect for the character and individuality of the children in her or his care.

### *Technology*

Children at Greene Towne are in the 18 months to 6-year-old age range, a period of rapid and critically important brain development. Healthy and effective brain growth occurs through sensory exploration, activities that require eye-hand coordination, motor planning, verbal interaction with others, and an understanding of the nuances of nonverbal cues.

These qualities are most effectively nurtured through the physical hands-on materials in the classroom and ongoing interactions with children and adults.

Children learn best when their senses, body, and mind are fully engaged, and when their work is both real and reciprocal in nature.

Conversations with others, vocabulary learned through engagement with real objects and experiences, and being read to by someone who pauses to discuss and to ask and answer questions are the most powerful and proven avenues to language acquisition.

For these reasons, electronic devices are not part of the teaching and classroom learning process at Greene Towne. The problem solving, observational, and reasoning skills that are honed in their daily life in the Montessori classroom prepare children to effectively and confidently learn and employ electronic tools.

Montessori educators support and encourage the use of electronic tools when children reach an age to use them to pursue learning goals with a sense of purpose, mastery, and confidence in themselves as capable learners.





## THE CURRICULUM

Montessori classroom work is divided into five curriculum areas. Each area is designed to teach via carefully sequenced sets of lessons, leading children through increasingly challenging steps.

Repetition is very important to young children, and some children engage with the same materials for days or weeks before feeling completely finished with them. Teachers/guides encourage and make time for repetition, as it is the child's means for mastering and internalizing a process or concept.

Teachers/guides are careful to support each child's pace of learning. When a child achieves mastery at one level, he or she is presented with a slightly more challenging task, inviting the child to simultaneously feel confident about an accomplishment and curious about the next challenge.

Montessori Curriculum areas:

- *Practical Life*
  - Practical skills that help children learn to care for self, others, and their environment
- *Sensorial*
  - Activities that help children to isolate and identify experiences gained through their five senses

- *Mathematics*
  - Counting, number recognition, the decimal system, arithmetic functions, fractions, beginning algebra & geometry
- *Language*
  - Stories and poetry, phonemic awareness, vocabulary, letter sound/symbol recognition, word composition, handwriting, beginning reading
- *Culture*
  - Physical and cultural geography, history, science, music, art

Additional Curriculum Activities:

- Music class
- Movement class
- Kindergarten art class



## **Developmental Characteristics**

### **6 months-3 years (Toddler)**

#### First Plane of Development

During this stage of development, children have a unique ability to absorb knowledge quickly and effortlessly. Maria Montessori referred to this characteristic as the Absorbent Mind.

These children are sensorial explorers and learn through the senses; therefore all experiences within the classroom are hands-on. This concrete experience of learning by doing is essential to the child's development as it enriches his or her understanding of new concepts.

Physical self-sufficiency is a central part of the Toddler curriculum. Toddlers are intensely interested in dressing, toileting independence, eating with real flatware, drinking from real glasses, balancing, running, jumping, throwing, and climbing.

Toddlers constantly work on language acquisition. They love expanding their vocabularies, and learning rhymes, songs and stories. They are learning to express feelings and desires with words.



### **3-6 years – (Primary)**

#### First Plane of Development

These children are still in the age of the Absorbent Mind, and take in knowledge with ease. They are increasingly curious about the world, and consciously seek to know things – from how to count to 100 to the names of dinosaurs. They are experimenters and explorers.

During this stage of development, children are very interested in refining their coordination of movement. They are increasingly independent, and delight in being able to take care of their own daily needs with minimal help from adults. These children have a strong sense of order, and respond positively to structured, predictable experiences. Children at this stage are also developing deeper and longer periods of concentration.

Primary children are increasingly conscious of friendship, of their roles as community members, and of social norms and accepted behaviors. Social growth at this age can be both charming and challenging. Sometimes the child is delighted to open a door for someone or to shake hands in greeting. At other times, the child explores the limits of acceptability, and risks strong reactions to see whether social rules really matter.

These children love real work, and delight in engaging in activities, such as washing dishes, that serve the community.

Primary children continue to be sensorial learners, and the sensory input of hands-on learning is a very important component of their learning process.

## **Practical Life**

### **Toddler**

Toddlers have an inborn passion to engage in activity that is meaningful and purposeful. The children want to do things for themselves. These children want to be active participants within their communities of family and classmates. Practical Life activities give them the skills to do so successfully.

Practical life exercises include:

#### **HOW TO CARE FOR ONESELF**

- Dressing/undressing
- Wiping runny nose
- Pouring water
- Preparing snack and feeding oneself
- Washing hands and face
- Washing dishes
- Practicing with utensils
- Practicing independent use of the toilet

#### **HOW TO CARE FOR ENVIRONMENT**

- Wiping up spills
- Sweeping
- Folding laundry
- Setting the table
- Washing dishes
- Flower arranging
- Mirror washing
- Table scrubbing
- Mopping

#### **SOCIAL RELATIONS/GRACE AND COURTESY**

- How to appropriately get attention
- Telling others how you feel
- Appropriately asking for help
- Offering assistance to another child who needs help
- Learning to self-calm

*"It is as if the child has an instinct to form [his/her] own coordination by carrying out actions on objects which surround [him/her] in the external environment."*

*Maria Montessori*



### **Primary**

The Practical Life area encompasses a variety of tasks that the child has observed others doing and wishes to imitate. Real materials and tools, sized for the hands of small children, allow them to successfully engage in work that allows them to be independent and of service to the classroom community.

The physical and mental challenge of successfully performing these tasks engages the child's deepest interest, causing him or her to repeat the work many times for the pleasure of doing it. Children engage in Practical Life not only because it is "practical," but also because it is deeply pleasurable.

Practical life work supports the 3-6-year-old's need for order, repetition, exactness, exploration, orientation, and manipulation. It also engenders a love of work that will carry over into all of the child's school endeavors.

Lessons in socially appropriate communication help children to function successfully in a community, and to develop confidence and success in their interactions with others.

Primary Practical Life exercises include:

#### HOW TO CARE FOR ONESELF

- Dressing frames (buttoning, zipping, tying, etc.)
- Washing hands
- Dressing and undressing
- Blowing one's nose
- Folding and hanging clothes
- Food preparation
- Self-grooming skills

#### HOW TO CARE FOR THE ENVIRONMENT

##### Indoor

- Sweeping
- Mopping
- Dusting
- Polishing
- Dish washing
- Table and chair scrubbing
- Cloth washing
- Ironing
- Flower arranging
- Sewing
- Care of plants
- Window washing
- Recycling

##### Outdoor

- Care and protection of plants
- Care and protection of animals
- Raking and sweeping
- Shoveling
- Weeding

#### SOCIAL RELATIONS/GRACE AND COURTESY

- Forms of greetings
- Care of guest in the classroom
- Polite physical interactions with others (e.g. opening a door for someone, waiting one's turn)
- Speaking appropriately in an indoor environment
- Conflict resolution

#### CONTROL OF MOVEMENT

- Walking on the line (balance)
- The silence game (whole-body mastery)
- Pouring
- Rolling mats
- Folding
- Opening and closing containers
- Carrying things in the environment
- Cutting with scissors
- Lacing, beading, sewing exercises
- Pincer grasp exercises



## Sensorial

### Toddler

Sensorial work helps Toddlers begin to develop a conceptual framework for their daily experiences of touch, taste, texture, and visual cues. In addition to materials that children take off the shelves and use independently, Toddler guides have many conversations with children about what they are experiencing: "This applesauce is sweet." "Your jacket is soft." "That drum is loud!" These verbal interactions assist children in conceptual development, as well as building vocabulary.

The sensorial materials include:

- Color identification
  - Blue, yellow, and red, etc.
- Color differentiation
  - Dark blue vs. light blue
- Size identification
  - Big, medium, and small
- Shape identification
- Geometric solids
- Tactile identification
  - Rough and smooth
- Tactile gradation
  - Rough, rougher, roughest
- Simple sorting
- Scent identification
- Taste identification
  - Sweet
  - Salty
  - Savory
  - Bitter



## Primary

*"The education of the senses is of highest importance...the development of the senses precedes that of the higher intellectual powers..." Maria Montessori*

The Sensorial materials provide a framework from which the child can learn how to discriminate, categorize, infer and conceptualize sensory experiences.

These materials will also help children refine the use of their senses and improve their ability to observe and make judgments about their environment.

The Sensorial materials are ordered in such a way that the child will have a foundation of necessary skills and processes to support development in the math and language areas.

The sensorial materials include:

### Visual Sense

- Pink Tower
- Brown Stair
- Red Rods
- Knobbed Cylinders
- Knobless Cylinders
- Color Tablets
- Geometric Cabinet
- Geometric Solids
- Constructive Triangles
- Sorting exercises
- Grading exercises

### Auditory Sense

- Sound Cylinders
- Bells

### Tactile Sense

- Rough and Smooth Boards
- Fabric Matching
- Mystery Bag

### Gustatory Sense

- Tasting Jars

### Olfactory Sense

- Smelling Jars

## Mathematics

## Toddler

Math is integrated into the Toddler's life as a part of daily life. A child may engage in a matching exercise (one-to-one correspondence), help to count classmates in order to participate in setting the table for lunch, or put together a number puzzle. Older toddlers may begin to work on materials that involve counting objects or numeral identification.



## Primary

The children's work in mathematics corresponds to their spontaneous and sustained interest in counting, adding (popular), subtracting (less popular), identifying sizes and shapes, handling money, telling time, and mastering the many other, almost magical, properties found in the world of math.

Math is introduced to the children with hands-on materials that isolate one concept at a time in a series of increasingly challenging sequential steps. For example, children are first presented with the concept of quantity (counting objects), then the symbol for the quantity (numerals), and finally, the association of the symbol with the quantity (counting objects and placing the appropriate numeral with them).

This careful, step-by-step process, illustrates what Montessori called "isolation of difficulty," leading the child to first succeed in small, incremental steps, followed by the excitement of assembling those steps into a more complex and difficult activity.

Primary children learn the four arithmetic functions: addition, subtraction, multiplication and division, as well as the fundamentals of the decimal system, fractions, and beginning geometric and algebraic concepts.

Concrete materials are used throughout the curriculum as the child moves to increasingly abstract mathematical operations. All materials are designed to give a child a clear, sensory impression of the concept that the child is working on.

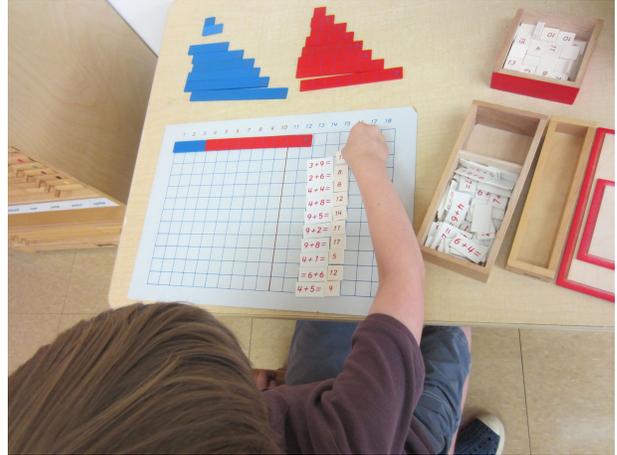
Mathematics materials include:

## INTRODUCTION TO NUMBERS

- Sandpaper Numbers
- Number Rods
- Spindle Boxes
- Cards and Counters

## DECIMAL SYSTEM

- Introduction to the Decimal System
- Operations with Golden Bead Material
- Stamp Game



## TEENS AND TENS

- Teen Boards and Beads
- Short and Long Chains
- Hundred Board

## MEMORY WORK

- Addition Strip Board
- Subtraction Strip Board
- Finger Boards (All operations)
- Snake Game (Addition and Subtraction)
- Bead Board (Multiplication and Division)



## PASSAGE TO ABSTRACTION

- Small and Large Bead Frame

## FRACTIONS

- Fraction Spindles
- Fraction Insets



*"It is certain that mathematics organizes the abstract path of the mind, so we must offer it at an early age, in a very clear and accessible manner, as a stimulus to the child whose mind is yet to be organized."  
Maria Montessori*

## Language

### Toddler

*“Words are bonds between [people] and the language they use develops and ramifies according to the needs of their minds. Language, we may say, grows with human thought.” Maria Montessori*

Toddlers are discovering the power of language. They are learning to ask for what they want with words, to use words to express feelings, to name everything in their environment, to respond to verbal instruction, and to enjoy stories, poems, and songs. Much of the language in the Toddler classroom is mediated through the adults, who model the use of language through conversation, story reading, songs, and instruction in words and phrases that children can use for effective social communication (e.g. “Please don’t touch my body” or “Help, please.”)

Toddlers also explore language by looking at books, naming items they see in pictures, naming puzzle pieces, and matching an object with a picture of the same object.

The Language curriculum includes:

- Uses single words to express needs
- Uses simple sentences
- Uses words to express feelings
- Names objects
- Uses complex sentences
- Asks simple questions
- Appears to understand spoken words
- Follows simple instruction
- Follows complex instruction
- Listens to and looks at books
- Sings songs
- Sound identification
- Initial sound tray
- Matches objects to corresponding pictures



## Language

### Primary

Primary children are exploding into language, exploring words, expanding vocabulary, and becoming increasingly curious about the power of the written word. They continue to enjoy oral language games, poetry, stories, songs, and word play, and their vocabularies are expanding rapidly. They are also beginning to isolate component sounds within words, a skill (phonemic awareness) that will be critical to the development of reading.

These children are introduced to letters, which are presented as symbols for the sounds that they hear in words. As they memorize these sound/symbol connections, they begin to assemble words with cut out letters, experiencing the first thrill of communicating through written language.

Primary children are also working on the fine motor skills necessary for the development of handwriting. These skills are taught within the language curriculum, and also within other curriculum areas, such as Practical Life and Sensorial.

The language curriculum includes:

#### ORAL LANGUAGE

- Expressive and receptive oral skill development
- Phonemic awareness
- Vocabulary development and enrichment
- Listening to stories
- Learning poetry and songs

#### WORD/NARRATIVE COMPOSITION

- Sandpaper letters
- Movable alphabet (cut out letters that children manipulate to form words or phrases)
- Narrative composition with moveable alphabet

#### HANDWRITING

- Metal insets
- Sand tray
- Chalk boards/white boards
- Handwriting exercises

#### READING DEVELOPMENT

- Matching objects with short, phonetic word labels (e.g. "box")
- Reading phonetic word lists
- Phonograms (e.g. "sh," "th," etc.)
- Reading phonogram word lists
- Puzzle words (sight words)
- Beginning readers
- Reading books

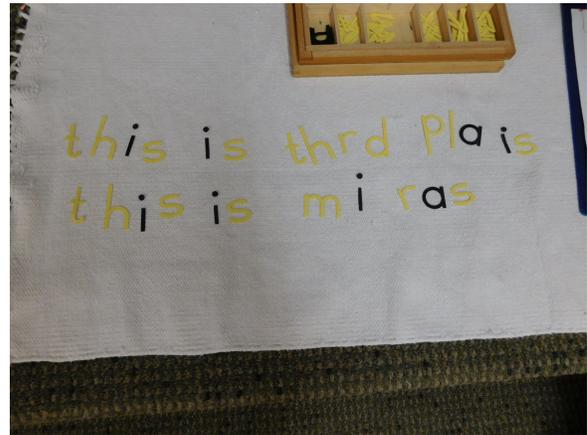
#### FUNCTION OF WORDS AND READING ANALYSIS

- General grammar usage
- Sentence formation

#### READING CLASSIFICATION

- Learning the parts of objects, animals or plants in the children's environment (e.g. the parts of a fish)
- Reading classification: learning definitions of parts of plants, animals, objects, etc. (e.g. *gills* are the part of the fish that allow it to breath under water).

Children use this work to practice the kind of reading that is used in research projects.





## **Toddler**

Science is embedded in every part of the Toddler curriculum. Children learn about gravity by noting how things fall if they are not well secured. They experience beginning fluid dynamics when they pour water, wash hands, wash dishes or use the bathroom. They observe and talk about insects and plants during outdoor play. They notice weather patterns through the year, and become aware of time through the routine of their daily schedule.



## **Primary**

Science lessons are included among the items on the shelves that children may work with and explore. The work is designed to give children clear, basic information, and teach them how to organize, discuss, and explore. It is also open-ended, allowing children to try their own approaches to a concept. Teachers/guides present the use of the materials, and then children have unlimited time to explore, ask questions, or develop new ways to approach the work.

The science curriculum includes:

### **BOTANY**

- Leaf identification & classification
- Naming the parts of trees, leaves, flowers, seeds, etc.
- Life cycles of plants
- Planting and tending container gardens

### **ZOOLOGY**

- Classifying invertebrate and vertebrate animals
- Animal studies
- Naming and learning the purpose of parts of animals
- Parts and function of the human body
- Life cycles of animals
- Animal families
- Dinosaurs

### **PHYSICAL SCIENCE**

- Magnetic and Non-magnetic
- Buoyancy
- Electricity
- Rocks and minerals
- Parts of the earth
- Volcanoes
- Weather
- Solar System
- Oceanography

## **Music and Art**

## **Toddler**

Music and art activities are incorporated into Toddlers' normal classroom activities.

### MUSIC

- Singing songs
- Playing instruments
- Listening to music

### ART

- Drawing
- Painting
- Gluing
- Cutting
- Collaging
- Sculpting



## **Primary**

Music and art activities are presented by teachers/guides and made available for children to use, just as they freely choose and use all of the learning materials in the classroom.

Kindergartners attend a weekly 2-hour art class, led by the resident art teacher. They are introduced to the work of well-known artists, learn to use a variety of art mediums and techniques, and learn about a variety of art genres.

All Primary children attend a weekly music class in small groups, organized by age. The music teacher employs both Orff and Kodaly methods to engage the children in a variety of musical movement games, rhythm exercises, and introduction to musical notes. Like the Montessori curriculum, the music program is a three-year curriculum, building each year on skills learned the previous year.

MUSIC WORK includes:

- Weekly music class (see above)
- Singing songs
- Tone bells – matching, grading and playing
- Listening to music
- Learning to identify musical instruments in pictures and in recordings

ART WORK includes:

- Kindergarten art class (see above)
- Drawing
- Water color
- Collage
- Easel painting (tempera paints)
- Sculpting (play doh & clay)
- Embroidery
- Art prints, books, postcards
- Artist biographies

## **Physical Education and Movement**

## **Toddler**

A great deal of the daily Toddler curriculum is focused on supporting the child's growing control of his or her body. Activities in the classroom and on the playground help children to develop full-body control, work on their fine motor skills, strengthen muscles and develop core strength.

Toddler movement activities include:

GROSS MOTOR: development, strengthening, refinement

- Unassisted walking
- Running
- Jumping
- Carrying items confidently
- Using maximum effort
- Dancing
- Climbing & descending stairs
- Climbing structures
- Kicking a ball
- Throwing a ball

AWARENESS OF ONE'S BODY IN SPACE

- Sits unsupported
- Ability to navigate around objects and people in the classroom and on playground
- Touching hands to other body part with eyes closed



## **Primary**

Coordination, refinement, and strengthening of movement continue in the Primary classroom, where children are free to move around the classroom at will. Engaging in works while sitting on the floor or standing helps children to develop core strength. In addition, many of the classroom works support the development of fine motor skills.

Free outdoor play gives the children the opportunity to further develop large motor skills, such as running, jumping, throwing, and climbing.

Primary children have a weekly movement class, led by an in-house movement teacher. This class allows them to experience movement training in a larger, more open space than the classroom. They attend the class in small groups, organized by age, and are led to work on skills such as balance, skipping, running, and stopping on cue. The movement teacher also incorporates dance movements, tumbling, and beginning yoga.

GROSS MOTOR

- Movement class (see above)
- Controlled walking
- Climbing stairs
- Running
- Jumping
- Skipping
- Climbing
- Throwing and kicking a ball
- Walking with a beanbag on head
- Walking on a line
- Controlled sitting

AWARENESS OF BODY IN SPACE

- Navigating around objects, furniture and people
- Working while sitting on floor or standing
- Carrying items on a tray, heavy objects, or delicate items