

Nursery Mathematics — Scope & Sequence

Program Purpose

Nursery Mathematics introduces young learners to foundational mathematical concepts through a developmentally appropriate combination of concrete exploration, movement, language, guided play, creative experiences, and structured book activities. The Teacher Guide and accompanying student book work together: teachers first develop concepts through hands-on and embodied experiences, then children recognize, represent, trace, match, sort, count, and apply those concepts in the student book. This structure is clearly visible throughout the guide. MASTER-Nursery-Mathematics

The curriculum integrates mathematics with oral language, fine- and gross-motor development, social-emotional learning, creative arts, and introductory STEAM experiences. Learning centers and teacher-led activities provide opportunities for concepts to be revisited in different contexts rather than taught only through workbook exercises. MASTER-Nursery-Mathematics

Scope at a Glance

Mathematical Strand	Nursery Scope	Intended Development
Number & Counting	Numerals 1–10; number words; counting quantities; numeral formation; number sequence	Connect spoken numbers, written numerals and concrete quantities
Geometry & Shape	Circle, square, triangle, diamond, star, heart, oval, rectangle and shape review	Recognize, name, distinguish, trace and use familiar 2-D shapes
Color & Classification	Red, blue, yellow, green, orange, purple, brown, black, white and review	Identify, name, discriminate, sort and classify by color
Patterns & Relationships	Repeated exposure to visual patterns, matching, grouping and sequencing; culminating shape-pattern work	Notice relationships, predict what comes next and complete simple patterns
Sorting & Grouping	Objects classified by color, shape, likeness and quantity	Develop early classification and logical-thinking skills
Mathematical Language	Number words, color words, shape vocabulary and quantity language used in questions and sentences	Build vocabulary for describing mathematical ideas
Representation &	Tracing/drawing shapes and numerals;	Move from concrete experiences

Early Recording	matching quantities; completing book activities	toward pictorial and symbolic representation
Spatial & Motor Mathematics	Walking numerals/shapes, number lines, mazes, jumping, positioning and construction	Develop spatial awareness through whole-body mathematical experiences

This is not simply a workbook sequence. For example, the Number 3 lesson combines numeral recognition, quantities of three, numeral formation, the written number word, rhythmic counting, a number line, physical movement, manipulatives and student-book practice. MASTER-Nursery-Mathematics Similar multimodal structures recur throughout the guide.

Learning Sequence

The sequence intentionally moves from **concrete experience toward symbolic representation**:

Experience & Explore → Recognize & Name → Match & Classify → Count/Describe → Trace & Represent → Apply → Review & Revisit

For example, children encounter a shape physically by walking its outline, identify it among other shapes, describe its characteristics, trace or draw it, locate it in familiar objects, and use it in art, construction or dramatic play. The square lesson, for example, incorporates walking the square, distinguishing it from other shapes, tracing it, identifying squares in buildings and windows, stamping square forms, and building with square materials. MASTER-Nursery-Mathematics

Number Progression

Stage	Learning Focus	Evidence of Learning
Numbers 1–3	Establish one-to-one quantity relationships and numeral recognition	Identifies numeral; counts matching quantity; says number word; begins numeral formation
Numbers 4–6	Extend counting range and strengthen number sequence	Counts increasingly larger sets; orders numbers; represents quantities; traces/writes numerals
Numbers 7–9	Consolidate sequence, quantity and symbolic representation	Moves between spoken number, numeral and collection; completes sequential number activities
Number 10	Consolidate the 1–10 counting sequence	Counts ten objects/actions; recognizes and forms 10; sequences 1–10; represents ten concretely and pictorially

The Number 9 lesson, for example, combines numeral recognition, quantities of nine, the written number word, numeral formation, counting objects, nine-beat rhythmic patterns, number-line work and sequencing a nine-part puzzle. MASTER-Nursery-Mathematics Number 10 extends this to sequencing 1–10, counting ten beats, ten-finger representation and a ten-part number puzzle. MASTER-Nursery-Mathematics

Geometry Progression

Children progress from **recognizing familiar forms** to **discriminating among multiple shapes and completing shape relationships/patterns**.

Early experiences introduce individual shapes through movement, objects and visual recognition. As the curriculum progresses, previously learned shapes reappear alongside new shapes, requiring children to distinguish between them. The culminating review asks children to identify **triangle, square, rectangle, oval, star, diamond, heart and circle** and to complete shape patterns. MASTER-Nursery-Mathematics

This gives administrators an important distinction: the curriculum does not merely expose children to shape names; it provides **repeated recognition, discrimination, representation and application**.

Color & Classification Progression

Color learning similarly develops through repeated cycles of:

notice → identify → name → discriminate → sort → apply → revisit.

Children encounter red, blue, yellow, green, orange, purple, brown, black and white across the curriculum. Color concepts are deliberately reused within later mathematical experiences. For example, children may identify colors while working with shapes or use previously introduced colors when representing quantities. Number 9 explicitly revisits earlier colors before introducing white. MASTER-Nursery-Mathematics

Some lessons also introduce elementary color relationships through paint mixing. Green, for example, is explored through mixing blue and yellow, integrating classification with hands-on STEAM exploration. MASTER-Nursery-Mathematics

Cross-Developmental Integration

A significant feature of the Teacher Guide is that mathematical learning is embedded across several developmental areas.

Developmental Area	How Nursery Mathematics Supports It
Cognitive Development	Counting, matching, sorting, sequencing, comparing and recognizing patterns

Language Development	Naming numbers, shapes and colors; answering questions; using mathematical vocabulary in sentences
Fine-Motor Development	Tracing, drawing, coloring, cutting, gluing, manipulating and early numeral formation
Gross-Motor Development	Number walks, shape walks, jumping, balancing, movement games and floor number lines
Social-Emotional Development	Turn-taking, collaborative games, discussion, sharing and classroom routines
STEAM Exploration	Building, manipulating materials, color mixing, observing objects and solving simple spatial problems
Creative Expression	Art, music, rhythm, dramatic play and construction linked to mathematical concepts

For example, the Number 2 lesson connects quantity with pairs, body awareness, listening, movement, fine-motor work, safety/life skills, sorting and language. MASTER-Nursery-Mathematics

Teacher Guide + Student Book Relationship

This deserves its own section because curriculum purchasers need to understand **what they are purchasing as a system**.

Teacher Guide

Provides the instructional experience: introductions, stories and rhymes, songs, movement, manipulatives, discussion prompts, hands-on activities, learning-center suggestions and connections across developmental domains.

Accompanying Student Book

Provides the child's structured opportunity to **recognize, trace, draw, count, match, color, discriminate and demonstrate** concepts introduced experientially by the teacher.

The intended instructional flow is therefore:

Teacher-guided concrete experience → guided practice → student-book application → learning-center reinforcement → observation/review.

That relationship is an important strength of the program because the book is positioned as **one component of instruction rather than the entirety of instruction**.

End-of-Book Learning Profile

By the completion of Nursery Mathematics, and with developmentally appropriate teacher support, children are given opportunities to:

- recognize and work with numerals and quantities **1–10**;
- develop emerging numeral formation and number-sequencing skills;
- connect number words, numerals and concrete quantities;
- identify and distinguish the program's taught colors and common two-dimensional shapes;
- sort and classify familiar objects according to observable attributes;
- recognize and complete simple visual/shape patterns;
- use basic mathematical vocabulary orally;
- represent mathematical ideas through movement, manipulatives, pictures, drawing and early written symbols;
- apply previously introduced concepts in later activities and review experiences.

Pedagogical Approach

The curriculum's instructional design can be summarized as:

Active • Concrete • Language-Rich • Playful • Multisensory • Repetitive • Cumulative

That characterization is supported by the guide itself: children repeatedly encounter mathematical concepts through movement, songs, stories, manipulatives, visual materials, art, teacher questioning, learning centers and book-based activities. MASTER-Nursery-Mathematics

It also broadly aligns with current early-mathematics literature emphasizing learning trajectories and purposeful mathematical experiences across number, geometry and play-based contexts. Elia and colleagues' review, for example, identifies number sense, geometry and learning trajectories as central areas within contemporary early-childhood mathematics research ([Elia et al., 2023](#)), while recent work by Sarama and Clements examines mathematical learning trajectories within play-based contexts ([Sarama & Clements, 2026](#)).