

Focus Areas in Pre-Kindergarten

Through observation of young children, we have come to know and understand that mathematics is already a part of their world. Research supports the notion that young children have an intuitive sense of informal mathematics. It can be seen during play when they use mathematics to make sense of their world.

It is our role to bridge the children's informal understanding of mathematics with more formal, school-based mathematics. Designing a learning environment by purposely placing mathematics materials in interest areas for child-initiated explorations and by intentionally introducing activities with a mathematics focus to develop the following four areas:

- number and operations: rote counting, one-to-one correspondence, comparison, order, cardinality, written numerals, combining (addition), separating (subtraction), sharing (division) and set-making (multiplication)
- measurement: measurable attributes, comparison, order, and conservation
- geometry and spatial sense: shape, space, transformations and visualization
- patterns (algebra): recognize, create and extend patterns and the analysis of change.

We observe and listen as children interact with materials and their peers, and use mathematical vocabulary to describe their actions and thinking. Ask questions as children investigate. Play logic games, create mathematical problem-solving stories and include numerical and algebraic activities as part of the daily routine.

(The Creative Curriculum for Preschool: Volume 4 Mathematics. Copley, Jones & Dighe, 2010. P.739)

Mathematical Practices in Pre-Kindergarten

PreK.MP.1 Make Sense and Persevere in Solving Problems.	<ul style="list-style-type: none"> • Teachers model for and work with children to think about, make plans, and follow through to solve a mathematical problem using objects or pictures. • Children informally experiment with math problem solving strategies using objects or pictures.
PreK.MP.2 Reason abstractly and quantitatively.	<ul style="list-style-type: none"> • Teachers model for and work with children to solve number stories using objects or pictures (to ten). • Teachers introduce number symbols to describe number stories (to five). • Children draw pictures to begin to represent simple number stories (to five) and may begin to use number symbols in their drawings.
PreK.MP.3 Construct viable arguments and critique the reasoning of others.	<ul style="list-style-type: none"> • Teachers use objects, drawings, and actions while modeling mathematical thinking. • Children begin to use objects, drawings, and actions to represent how they approached a mathematical problem.
PreK.MP.4 Model with mathematics	<ul style="list-style-type: none"> • Teachers point out math in everyday situations and model using math to solve everyday problems. • Children begin to use objects, pictures, words (and may begin to use number symbols [to five]) to solve simple everyday problems (to ten).
PreK.MP.5 Use appropriate tools strategically.	<ul style="list-style-type: none"> • Teachers model and use tools (e.g. a clock, paper and pencil, dice, two- and three-dimensional geometric shapes) and standardized objects (e.g. Unifix® cubes, unit blocks).

PreK.MP.6 Attend to precision	<ul style="list-style-type: none"> • Teachers model and use mathematics vocabulary during classroom activities and routines. • Children begin to use mathematics vocabulary during classroom activities and routines.
PreK.MP.7 Look for and make use of structure	<ul style="list-style-type: none"> • Children use materials that give them experience with parts and wholes (e.g., filling egg cartons, combining shapes [tangrams, puzzles, pattern blocks], combining two groups to make one group [combining a group of plastic zoo animals with a group of plastic farm animals]).
PreK.MP.8 Look for and express regularity in repeated reasoning.	<ul style="list-style-type: none"> • Teachers model for and work with children to develop simple patterns (e.g., ab, abb, abc) using objects, pictures, actions, and words. • Children identify, repeat, and extend simple patterns started by the teacher. • Children begin to intentionally make their own simple patterns using objects, pictures, actions, and/or words.