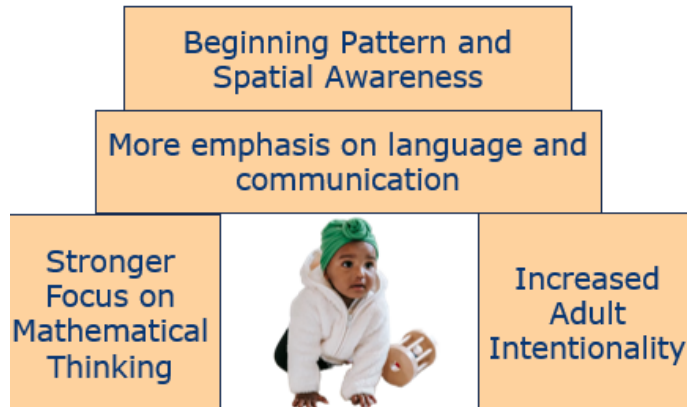


Cognitive Development & General Knowledge: Math

Building Mathematical Thinking from the Beginning

Infant: 0–12 Months



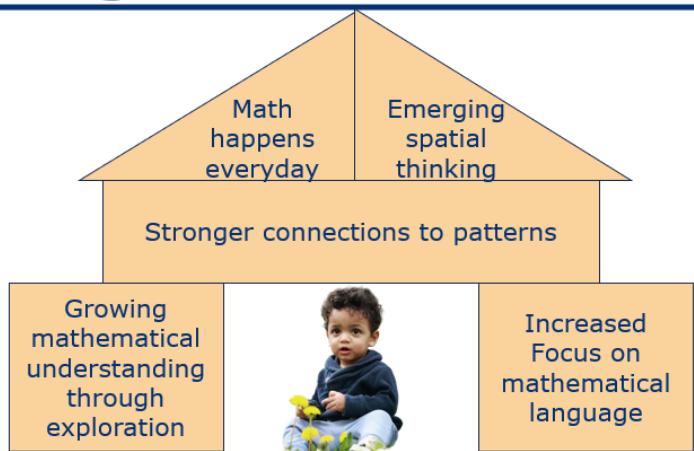
The 2026 GELDS recognize that mathematical learning begins long before children can count or identify numbers. Infants develop foundational mathematical concepts through exploration, movement, observation, and interactions with responsive adults. The standards place greater emphasis on helping educators intentionally support these early experiences through language-rich interactions that highlight patterns, quantity, position, and cause-and-effect relationships. Through everyday routines, songs, play, and caregiving moments, infants begin building the foundations for future mathematical reasoning. The focus is not on teaching mathematics, but on recognizing and strengthening the mathematical learning that is already happening through everyday experiences.

Patterns & Predictability •Sing repetitive songs/fingerplays •Play peek-a-boo •Repeat simple actions (up, down, up, down) •Maintain consistent routines	Quantity & Number Awareness •Counting fingers/toes at diaper change •Count blocks while stacking •Count spoonfuls during meals •Use number words naturally
Spatial Thinking •Encourage reaching, rolling, crawling, climbing •Play with containers for putting objects in/out •Hide toys under scarves or behind objects •Use positional language during play (on top, under, behind, etc.)	Cause & Effect •Rattles & musical toys •Buttons that activate sounds or lights •Dropping toys from a highchair
Comparing Objects •Offer toys of different sizes, shapes, textures •Explore nesting cups •Use soft blocks of various sizes •Describe difference during play	Building Math Language During Care Routines •Diapering: label the steps (first, next, etc.) •Meals: label amounts (more, some, less, etc.) •Transitions: positional language (up, down, etc.) •Clean-up: Describe actions (inside, on shelf, etc.)

Cognitive Development & General Knowledge: Math

Exploring Mathematics Through Everyday Experiences

Young Toddler: 12-24 months



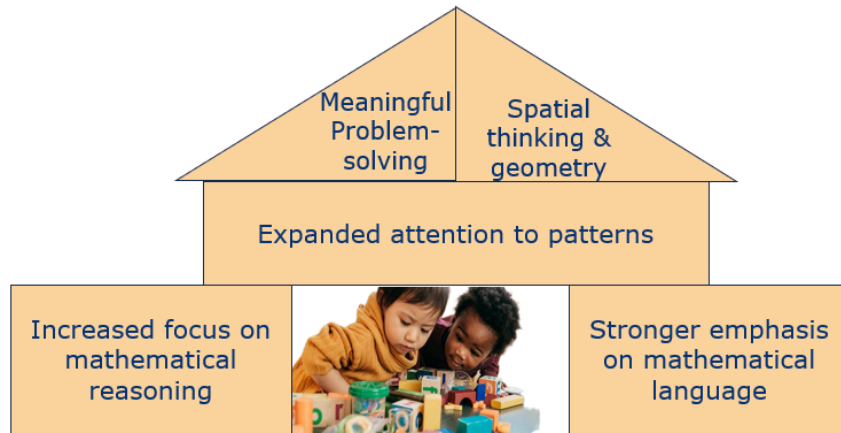
The 2026 GELDS recognize that young toddlers develop mathematical understanding through active exploration and everyday interactions. As children compare, sort, match, stack, fill, and dump, they begin making meaningful connections about quantity, size, position, and relationships between objects. The standards place increased emphasis on mathematical language, pattern awareness, and spatial exploration, helping children connect their experiences to emerging mathematical concepts. Through play, movement, routines, and conversations, toddlers build the foundation for later reasoning, problem-solving, and mathematical communication.

Comparing Quantities •Snack distribution •Filling baskets with toys •Looking at groups of objects during play	Sorting & Matching •Sort toy animals, blocks, or cars •Group objects by color, size, or type •Clean-up games
Stacking & Building •Block play •Stacking cups •Building towers with recycled materials and boxes	In, Out, Fill, and Dump Play •Sensory bins/water tables •Scooping & pouring activities •Containers and loose parts
Pattern Play •Movement games •Songs/fingerplays •Drum or rhythm activities	Exploring Position & Direction •Obstacle courses and playground exploration •Hind-and-find games •Blocks and dramatic play
Math During Daily Routines •Mealtime: Count items or compare amounts of food •Clean-up: Sort toys by type/match items to bin labels •Transitions: Count children & talk about first, next, last	Outdoor Play •Collect leaves, rocks, sticks (grouping, comparison, measurement) •Fill & dump sand buckets •Roll balls/cars down ramps

Cognitive Development & General Knowledge: Math

From Exploration to Early Reasoning

Toddler: 24–36 Months



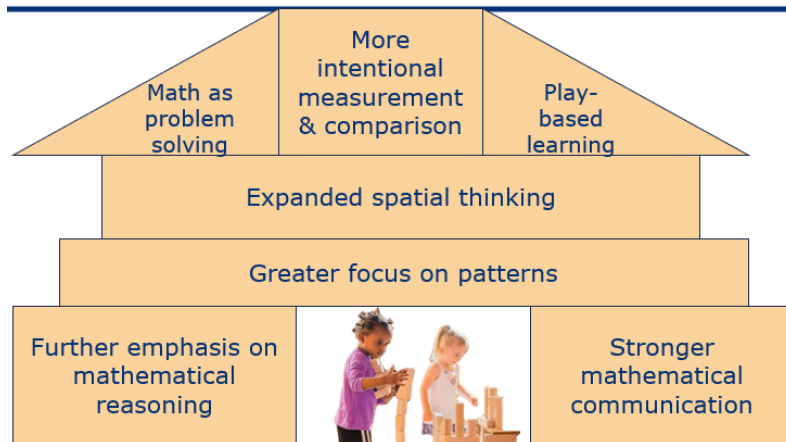
The 2026 GELDS support children as they move beyond exploration and begin communicating their mathematical thinking. During this stage, children increasingly sort, classify, compare, predict, and recognize patterns while using language to describe their observations and decisions. Greater emphasis is placed on reasoning, mathematical communication, spatial thinking, and problem-solving through meaningful play experiences. Through hands-on exploration and everyday interactions, children begin making connections between mathematical ideas and the world around them.

Comparing & Classifying •Sort toys by color, size, type, or function •Organize classroom materials during clean-up •Match objects that belong together	Pattern Play •Create movement patterns (clapping or stomping) •Use snap cubes, pattern blocks, or counting bears •Sequence familiar routines
Building & Construction •Block play •Building with recycled materials •Creating roads & bridges	Measurement Through Play •Compare tower heights •Containers with sand or water & add scoops, cups, buckets •Compare lengths of items, like string or paper
Spatial Thinking •Obstacle courses •Treasure hunts •Puzzles •Dramatic play with props & furniture	Problem Solving Everyday Challenges •Encourage children to solve simple classroom problems •Figure out how to carry multiple items •Create paths for rolling balls
Math During Daily Routines •Mealtime: Count items or compare amounts of food •Clean-up: Sort toys by type/match items to bin labels •Transitions: Use sequencing language (first, next, etc.)	Outdoor Exploration •Collect leaves, rocks, sticks – compare sizes & shapes •Create patterns with natural materials •Build simple structures outdoors

Cognitive Development & General Knowledge: Math

Growing as Mathematical Thinkers

Preschool: 36-48 Months



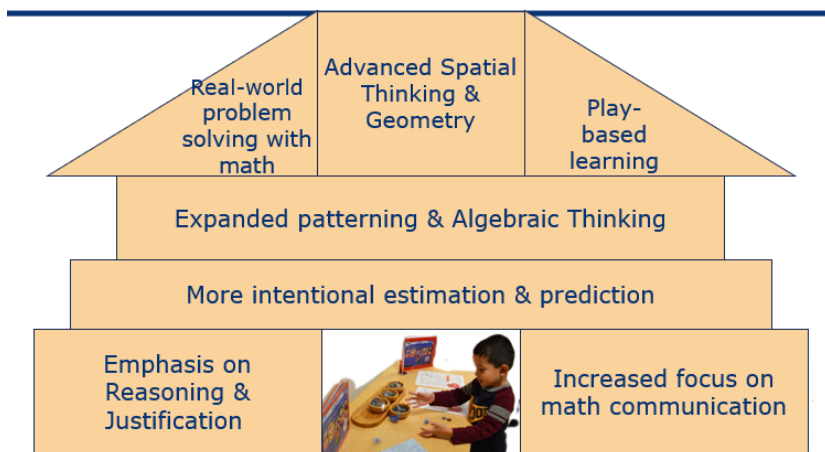
The 2026 GELDS encourage preschoolers to move from exploration toward explanation, helping them reason through problems, communicate their thinking, and apply mathematical concepts in meaningful ways. The standards place greater emphasis on mathematical language, patterning, measurement, spatial thinking, and problem-solving. Through rich conversations, investigations, construction activities, and play-based learning experiences, children develop a deeper understanding of mathematics while building confidence as capable mathematical thinkers.

Reasoning and Problem Solving •Building challenges •STEM tubs and loose parts •Open-ended block play •Classroom problem-solving opportunities	Pattern Investigations •Create patterns with blocks, beads, or natural materials •Movement and dance patterns •Rhythm patterns with instruments •Pattern walks outdoors
Measurement Through Play •Measure structures with linking cubes •Compare heights of classmates' towers •Use ribbons, blocks, or footsteps as non-standard units •Water and sand investigations	Advanced Building and Construction •Design and build structures in the block area •Create roads, bridges, and cities •Replicate a structure from a photo •Collaborative building challenges
Spatial Thinking and Mapping •Treasure hunts •Classroom maps •Obstacle courses •Small-world play – dollhouses, farm set-up, dinosaur land	Data Collection and Graphing •Class surveys •Attendance charts •Favorite color or snack graphs •Weather tracking
Math During Daily Routines •Mealtime: Count items, compare quantities, estimate portions •Clean-up: Sort materials into categories/organize by size/type •Transitions: Count children, sequence activities, & discuss time-related concepts	Outdoor Math •Measure shadows •Compare sticks, leaves, and rocks •Create nature patterns •Build with loose parts

Cognitive Development & General Knowledge: Math

Thinking, Reasoning, & Communicating Like Mathematicians

Pre-Kindergarten: 48–60 Months



The 2026 GELDS position Pre-K children as active mathematical thinkers who can reason, estimate, justify, and communicate their ideas with increasing independence. Children are encouraged to explain their thinking, analyze patterns, solve real-world problems, and use mathematical concepts to make sense of their experiences. Increased emphasis is placed on mathematical communication, estimation, spatial thinking, and problem-solving while maintaining play as the primary vehicle for learning. Through meaningful exploration and authentic experiences, children build the confidence and skills needed for future mathematical learning.

Estimation & Prediction •Guess-and-check activities •Estimating classroom collections •Cooking experiences •Building projects	Mathematical Discussions & Justification •Small-group problem-solving tasks •Partner investigations •Comparing solutions after an activity •Reflection conversations
Advanced Patterning •Pattern-building centers •Music and movement sequences •Nature pattern investigations •Creating patterns with snap cubes, pattern blocks, or bears	Measurement Investigations •Measuring classroom objects •Comparing lengths, weights, and capacities •Cooking activities •Science explorations
Building, Design, & Engineering Challenges •Designing bridges and towers •Building structures with a specific purpose •Creating obstacle courses •Loose-parts construction	Spatial Thinking and Mapping •Create classroom maps •Design treasure hunts •Build roads and communities •Use directional games
Data Collection and Analysis •Class surveys •Weather tracking •Attendance graphs •Voting activities	Real-World Problem Solving •Planning classroom events •Sharing materials fairly •Determining supply needs •Cooking and snack preparation
Math During Daily Routines •Mealtime: Estimate quantities; count & distribute materials; compare amounts •Clean-up/Organization: Categorize and sort materials; count & inventory supplies •Transitions: Use sequencing & time language; track attendance/class data	Outdoor Math •Measure shadows •Create obstacle-course challenges •Collect & analyze nature items •Build with natural loose parts