



Early Math Instruction Best Practices for Young Children with Disabilities (YCWD)

What is Early Mathematics?

Early math instruction uses intentional, evidence-based practices to build foundational skills that support young children's mathematical thinking with a focus on helping them make sense of numbers, patterns, space, and measurement through everyday experiences.

Key Foundational Skills:

- **Knowledge of Numbers:** The understanding of what numbers represent and how they relate to quantity, counting, and comparison. It goes beyond reciting numbers to include making meaningful connections between numerals, objects, and real-world situations.
- **Patterns and Operations:** The ability to recognize, create, and extend patterns, as well as understanding how quantities change and relate to one another, which forms the foundation of early algebraic thinking.
- **Measurement:** The understanding of how to describe, compare, and quantify attributes of objects, such as size, length, weight, and capacity, in order to make sense of the physical world.
- **Shapes and Spatial Relationships:** The ability to recognize and describe shapes, as well as understand how objects move, fit, and relate to one another in space.

Why Early Mathematics Matters for YCWD?

Early mathematics is crucial for young children with disabilities because it builds foundational skills, supports overall development, enhances language and communication, promotes independence, and helps them succeed in school and everyday life.

Best Practices:

- **Integrate Math through Play and Routines**
 - Embed counting, comparing, and patterns into play, meals, transitions, and daily routines while following children's interests and extending them with mathematical language.
 - Helps young children naturally learn and apply math through hands-on, meaningful experiences that feel like exploration rather than formal instruction.
- **Explicit, Intentional Teaching**
 - Educators actively guide children's learning by clearly modeling skills, using think-alouds, asking meaningful questions, and breaking tasks into simple, manageable steps with repeated practice to support understanding.

- **Differentiated Instruction: Universal Design for Learning (UDL)**
 - Ensure all children can learn by planning lessons with multiple ways to access information, stay engaged, and show what they know.
 - These approaches remove barriers and support different learning needs by allowing children to participate in ways that fit their abilities, such as using visuals, hands-on materials, speech, or assistive technology.
- **Scaffolding**
 - Providing just enough targeted support to help children progress from guided problem-solving to independent mathematical thinking, while staying within their developmental level.
 - Promotes gradual independence by building confidence through small successes, strengthening math language and reasoning, and intentionally shifting responsibility from the educator to the child over time.
- **Multisensory approach: Use visuals and manipulatives**
 - Using a multisensory approach involves integrating manipulatives and visuals so children can explore concepts through touch, sight, and movement, helping them build foundational skills through hands-on experiences rather than abstract symbols alone.
 - This best practice strengthens understanding and memory by making abstract math ideas concrete, supporting problem-solving and self-correction with manipulatives (e.g. blocks, bears) while visuals (e.g. pictures, number paths) help children organize information and recognize relationships
- **Promote Mathematical Language**
 - Intentionally modeling and using math vocabulary to help children connect language with mathematical concepts and deepen understanding.
 - Supports early math development by encouraging children to explain their thinking, describe their problem-solving processes, and expand their language, strengthening both communication and conceptual understanding.
- **Collaborate with specialists and families**
 - Collaboration is essential because a team approach ensures children with disabilities receive consistent, individualized support that strengthens their mathematical understanding across settings.
 - Partner with special educators, therapists, and families to align strategies between home and school while incorporating culturally relevant practices that reflect each child's background and needs.

Incorporating Best Practices in Foundational Mathematic Skills:

When selecting an activity for Young Children With Disabilities (YCWD), utilize data to meet the child at their developmental level and systematically bridge the gap towards more complex skills. Refer to the indicators in the [Louisiana Early Learning and Development Standards \(ELDS\) PDF](#) to identify a child's developmental level on the progression chart (infant, toddler, preschool) and implement best practices to build their skills to their age appropriate level.

Early Literacy Skills	Key Points	What does instruction look like?
Knowledge of Numbers	- Use hands on manipulatives (e.g. blocks, counters) and visuals - Embed math in daily routines - Encourage math talk - Focus on understanding	Infants: During daily routines intentionally model counting by touching body parts such as counting fingers and toes. Toddlers: During daily routines, such as clean-up time, have students join in counting objects as they put them in the bin. Ask intentional questions such as “How many blocks did you put away?” Preschoolers: Use hands-on manipulatives to practice matching objects to corresponding numerals, focusing on understanding that the numeral represents the quantity. Use visuals such as a number path for support if needed.
Patterns and Operations	- Use visuals and movement based patterns - Encourage children to predict what comes next - Model problem solving with real objects - Ask open-ended questions that explain their thinking and reasoning.	Infants: Perform simple visual and movement-based repetitive motions, like A-B patterns while using verbal cues to help them observe and anticipate the next action (e.g. pat, clap, pat, clap) Toddlers: Introduce simple sorting tasks by modeling and having children sort real objects (e.g. buttons or small toys) by one attribute, such as color or size, using visual sorting mats for extra support as needed to practice early classification skills. Preschoolers: Model problem solving with real objects by acting out simple addition and subtraction story problems with toys (e.g. Two bears were playing. One left. How many are left?) Ask open-ended questions like, “How did you figure that out?”, to discuss reasoning and incorporate math talk.
Measurement	- Use real-life context (cooking, building) - Start with non-standard units (blocks, hands) - Encourage comparison language - Integrate into play (water, sand, etc.)	Infants: Use comparison language during interaction with objects (e.g., “big toy vs. “little toy”) Toddlers: During building activities use comparison language to compare length or width of objects, by asking, “Is your block taller than mine?”. Have them measure their creations by asking, “How many blocks long is your train?” Preschoolers: Incorporate in daily play centers. Encourage comparison language by discussing weight to determine which is heavier or lighter. Provide multi-sized containers that hold different volumes. Have students see which container holds more sand or water.
Shapes and Spatial Relationships	- Use hands on building and drawing - Connect shapes to real-world objects - Encourage spatial language - Allow exploration through movement and play	Infants: Allow exploration through movement and play by placing toys in varying spatial locations, such as placing a rattle in a container and then out of it, while intentionally modeling the language “in” and “out”. Toddlers: Connect shapes to real-world objects by having students go on a shape hunt, identifying basic shapes. Preschoolers: Create obstacle courses or play Simon says incorporating movement and spatial language. (e.g. Step over the pillow or Put your hands behind your back.

