

CORE SKILL: THINK

Early Math



What You Need to Know

Even if we don't notice it, infants are constantly constructing ideas about "math." They do so through their everyday routines, experiences, and interactions with caring adults like you! For example, an infant might signal that they want more food – more is one of the first math concepts that children use. Infants also use their early math skills to sort adults into familiar and unfamiliar categories – an infant may cry when held by an unfamiliar adult but smile when held by their caregiver. You can support infants' development of early math skills by intentionally incorporating math concepts when talking to infants.

Things to Consider

It isn't necessary to "teach" math to infants. Infants learn early math skills best through everyday moments with you. For instance, you help infants build ideas about measurement when you simply say, "You took a long nap today." When playing peek-a-boo and saying, "Who is under the blanket?" you are supporting infants to build notions about spatial relationships. For this reason, it is important to purposefully use math concepts when talking to and interacting with infants.

Development of Early Math Skills

| Between birth and 9 months, infants may: | Between 8 and 18 months, infants may: |
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| Attend to quantity in play with objects (e.g., reaching or looking for more than one object). | Use a few basic words to refer to change in the amount of objects (e.g., ask for "more" or say "all gone" when a plate is empty). |
| Explore or examine objects and watch objects when they move. | Explore how things fit together, how they fit with other things, and how they move through space (e.g., a ball rolled under a table). |
| Explore or examine differences between familiar or unfamiliar people or between different types of objects (e.g., by mouthing or shaking a toy). | Match objects by similar or related characteristics (e.g., match shapes with openings in a shape-sorting box or put a toy bottle with a baby doll). |

Setting the Stage

Activities and materials that support the development of early math skills:

- ◆ Provide objects and materials that have different measurement properties (e.g., sizes, weights, volume, and quantities).
- ◆ Provide objects and materials that infants can use to sort, classify, identify and/or create patterns (e.g., color blocks, shape-sorting box, or wooden puzzles). Incorporate high contrast items when possible, to support children with visual disabilities.
- ◆ Books about numbers, shapes, sizes, colors, and objects that are the same/different, etc.
- ◆ Songs or rhymes that include math concepts.



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| OBSERVE | <p>OBSERVE</p> <p>Take time to notice routines and moments of the day in which you could naturally incorporate math talk to support infants’ early math skills. Do some parts of the day seem especially suitable for using math concepts (e.g., meals, diapering)? Are there specific toys or materials that can prompt math talk (e.g., sorting box, toys to classify, objects in different quantities)? Consider specific math concepts that you could use (e.g., long/short, more/less, and on/under).</p> |
| FOCUS | <p>Use Comparison, Number, and Measurement Words</p> <p>Use comparison, number, and measurement words during interactions with infants throughout the day and during activities. By doing so, you are helping infants use math concepts to make sense of their world. For example:</p> <p>Comparison and numbers (i.e., number, quantity, and order):</p> <ul style="list-style-type: none"> ◆ While Diapering: “You have two legs... One, two.” ◆ During Choice Time: “Look, you have more blocks than I do. You have four and I have one.” <p>Measurement (i.e., size, weight, quantity, volume, and time):</p> <ul style="list-style-type: none"> ◆ When reading a book: “That’s a big bear (<i>point</i>). See this little one (<i>point</i>)?” ◆ During Mealtime: “Want some juice? Pouring this juice is hard. The juice jar is heavy.” |
| FOCUS | <p>Label Shapes, Where Things Are in Space, Patterns, and Object Characteristics</p> <p>Make daily math concepts concrete and visible to infants by drawing their attention to shapes and the position of objects in space. For example:</p> <ul style="list-style-type: none"> ◆ Before rest: “Where is your teddy bear? I found it! It’s next to your blanket.” ◆ When playing: “Can you hide behind your hands like this? Peek-a-boo!” ◆ During dismissal: “You’re reaching <i>up</i> because you want Abuelo to hold you. You’re up so high!” <p>To support infants’ early classification efforts, draw their attention to object characteristics and patterns around them. For instance:</p> <ul style="list-style-type: none"> ◆ When outside: “Look at the flowers! There are two colors of flowers here: pink, yellow, pink, yellow, pink.” ◆ Prompt older infants to sort objects: “Let’s put these toys away! Cars here. Balls here. Good job!” ◆ When washing their hands: “We’re ready. Let’s use this towel to dry your hands. Look, it has stripes: white, blue, white, blue, white, blue.” |
| KEEP IT GOING | <p>Consider what you learned from observing infants on Monday as well as their reaction to your Focus and Scaffold. Find ways to intentionally incorporate math-talk throughout the day.</p> |