

CORE SKILL: THINK – MATH

Measurement



What You Need to Know

Measuring is any process that produces the numerical value for an attribute of an object. In other words, it is the number you come up with when determining the length, height, weight (or another attribute) of an object. Comparing involves determining the relationship between one attribute of two different objects. It allows you to determine if the object is longer, shorter, or the same length as something else. For example, “Is this stick longer, shorter, or the same length as this other stick?”

Things to Consider

Though it may seem too complex, measurement and comparison have many applications in the real world for toddlers. Remember, the more that learning is made concrete, visible, and relevant, the more likely children will be able to understand and retain what they have learned. When working with toddlers on measurement and comparison skills, focus on helping them develop the understanding that objects have attributes. Consistently use the language of measurement and comparison in your interactions with children (e.g., big-ger, small-er, long-er, short-er, heavy-ier, light-er). During play with children, provide opportunities for them to compare attributes in the world around them. For example, “Your tower is so tall! It’s taller than mine!”

Development of Measurement

Between 9 and 18 months, children may:	Between 16 and 36 months, children may:
Begin to understand and possibly use relationship words and comparative language, such as bigger.	Continue to understand basic measurement and comparative language specific to object attributes (e.g., bigger, smaller, heavier, taller).
	Identify that length, weight, or volume are attributes; in other words, indicate that objects have measurable, and comparable characteristics.
	Compare two objects and identify which is longer (e.g., compare two containers to see which holds more by pouring sand/water from one container into another one).

Setting the Stage

Activities and materials that support the development of measurement and comparison:

- ◆ Pretend play experiences: provide a variety of materials during pretend play, calling attention to measurable attributes of objects during play interactions (e.g., “The doll’s dress is so small,” or, “You’re cooking a big cake!”).
- ◆ Use children’s own experiences and bodies: use measurement words as you talk about children’s bodies and experiences in the classroom, such as the length of their nap or the long walk to the playground.



Intentional Teaching Practices to Support Measurement

OBSERVE	<p>Observe</p> <p>Carefully observe children as they play, and note their interest in and awareness of object attributes, such as weight or length. During play or pretend play, do children appear to organize objects by measurable attributes (e.g., choosing to throw only balls that are big)? As you observe children across the day, take note of opportunities in which you will be able to call attention to measuring and comparing as you interact with them and engage in play.</p>
FOCUS	<p>Use Measurement Words</p> <p>Use the language of measurement and comparison during interactions with children across contexts, labeling measurable attributes.</p> <ul style="list-style-type: none"> ◆ “Moving that chair is hard. It’s <i>heavy!</i>” ◆ “Your nap lasted a <i>long</i> time today. You slept for a <i>longer</i> time than yesterday!” ◆ “Let’s see how many steps it takes to get from here to the door...” ◆ “Your tower is <i>taller</i> than mine!”
SCAFFOLD I	<p>Prompt Children to Compare Objects</p> <p>Encourage children to compare objects based on their measurable attributes.</p> <ul style="list-style-type: none"> ◆ “Let’s put the <i>longer</i> toys away in this basket and the <i>shorter</i> toys away in that basket.” ◆ Set out a group of objects of varying lengths and encourage children to divide them into two piles by comparing each to a single object. For example, using a piece of yarn, they can work to make a pile of objects that are shorter than the yarn and a pile of objects that are longer than the yarn.
SCAFFOLD II	<p>Prompt Children to Make Measurements</p> <p>For older toddlers, encourage children to make measurements using non-standard (and occasionally standard) units of measurement.</p> <ul style="list-style-type: none"> ◆ “We are making sure the yarn is just as <i>tall</i> as (Child)!” ◆ “This piece of yarn is <i>taller</i> than (Child), but <i>shorter</i> than (Child).” ◆ “Let’s fill this measuring cup so that we can make lemonade with the right amount of water that we need!”
KEEP IT GOING	<p>Consider what you learned from observing children on Monday as well as their reaction to your Focus and Scaffolds. Find ways to build the activities from Setting the Stage into your regular routines.</p>