

3–5 Years

Mathematics: Measurement Knowledge

WHEN INTRODUCED AND EMPHASIZED: Weeks 24–26, and 30

BEHAVIORS TO OBSERVE

- Assigning Number Values When Measuring
- Using Basic Measurement Skills
- *Understanding and Using Standard Forms of Measurement

*For children who are ready to learn this advanced skill.

OBSERVATION OPPORTUNITIES

Assigning Number Values When Measuring Items

How does the child demonstrate an understanding of number values as tools for measuring as he/she:

- measures length, width, or height of something (any free play period after Week 24, Day 3)?
Example: Child places one hand in front of the other hand and says “This book is two hands long.”
- counts the number of cubes that it takes to measure an item and states the last number counted as the assigned numerical value (Week 24, Day 4 group activity)?
- measures an item and assigns a numerical value matching the number on the ruler (any free play period after Week 25, Day 3)?
- uses a balance scale or kitchen scale to weigh an item (Week 26, Day 4 center activity)? Example: He/she places a pretend head of cauliflower on the kitchen scale, watches the pointer move to the two, and says “It weighs two pounds.”

Using Basic Measurement Skills

How does the child demonstrate a basic understanding of measurement as he/she:

- measures caterpillar cutouts with Unifix® cubes (Week 24, Day 3 center activity)?
- compares the weight of two items (any free play period after Week 26, Day 1)?

Understanding and Using Standard Forms of Measurement

What level of measurement understanding does the child demonstrate as he/she:

- measures various items using a ruler (Week 25, Day 4 group activity)?
- weighs and compares various items (Week 26, Day 4 center activity)?

FOLLOW-UP LEARNING SUPPORTS

Reinforce

The following activities are designed to support the ongoing development of measurement knowledge.

Assigning Number Values When Measuring Items

- Invite a child to describe how he/she knew which number told the height, weight, or length of something he/she is measuring?
- Encourage a child to measure something that is 3–5 feet long. Invite the child to make a tally mark each time he/she needs to move the ruler to measure another foot (ruler length).
- Provide items that are not a foot long and support children in recording how many inches an item measures.

Using Basic Measurement Skills

- Encourage a child to think of times when measuring something is important. Provide clues, if appropriate, such as cooking and building.
- Provide measuring tapes or rulers in the block area. Encourage children to determine how long and how wide they want a structure to be before building. Invite children to measure the length and height of their structures when complete.
- Place a scale in the dramatic play area. Encourage children to weigh the food before beginning to “cook” it.

Understanding and Using Standard Forms of Measurement

- Encourage a child to explain why he/she chose the standard form of measurement that he/she used. Examples: Why would we use a ruler instead of a scale? Why would we use a ruler instead of our hands?
- Provide rulers or measuring tapes for children to measure items on the playground.
- Provide a balance scale and a kitchen scale. Encourage children to use a balance scale to compare which of two items is heavier. Invite children to use the kitchen scale to find the exact weight of the two items.

Reintroduce

The following activities are designed to support the development of measurement knowledge among children who need additional support for understanding concepts of measurement. The activities are also appropriate for all children.

Assigning Number Values When Measuring Items

- Repeat the Week 24, Day 3 group activity to support children's understanding of how numerical values are assigned when measuring an item.
- Repeat the Week 24, Day 4 group activity. Consider using Lego® Duplo® bricks, if available, to provide variety in materials.

Using Basic Measurement Skills

- Repeat the Week 24, Day 1 group activity to emphasize the concept and measurement of size. There are many words for children to learn in this activity plan. Devote sufficient time to each.
- Repeat the Week 24, Day 2 group activity to remind children of the meaning of length. Help children compare two items to discover which item is longer.
- Repeat the Week 24, Day 3 group activity to emphasize what it means to measure something.
- Repeat the Week 26, Day 1 group activity to remind children of how to use a balance scale.

*Understanding and Using Standard Forms of Measurement

- Repeat the Week 25, Day 2 group activity to remind children that our hands vary in size, and to emphasize that a ruler is a tool for measuring the length and height of items.
- Use the Week 25, Day 3 activity to help children understand how to measure length and height using feet and inches.
- Repeat the Week 26, Day 3 group activity to remind children that a scale tells how heavy an item is.

*For children who are ready to learn this advanced skill.