

Indicator #22
Measurement

Student uses measurable attributes to compare objects.

Research

Children are able to manipulate, count, measure, and ask questions about almost any object in their environment. Kindergarten teachers should encourage exploration and manipulation of items so children can discover measurable properties such as length and weight. At first students make qualitative comparisons such as ordering things (ex. Johnny is taller than Suzy). Making comparisons is the beginning stage of measurement. Teachers can then begin focusing on quantitative differences by introducing measuring tools (ex. Rulers and scales) and modeling the correct use of these tools. By putting a focus on measurement students learn about size and quantifying, arranging objects to compare them, estimating difference, and quantifying different items with nonstandard and standard tools. These are skills that children will use in everyday life experiences such as cooking, shopping, building, and constructing. Learning about these foundations of measurement also further prepare students to comprehend more advanced mathematics and science.

Epstein, A. S. (2007). *The intentional teacher: Choosing the best strategies for young children's learning*. Washington, DC: National Association for the Education of Young Children. Retrieved June 06, 2016, from [https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/eecd/domains of child development/mathematics/pp41_65.pdf](https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/eecd/domains%20of%20child%20development/mathematics/pp41_65.pdf).

Measurement and Data

2.4.PK.A.1

Describe and compare measurable attributes of length and weights of everyday objects.

The learner will:

- Compare two objects with a measurable attribute in common

The learner may also:

- Recognize attributes of objects that can be measured
- Measure objects using non-standard items (e.g. hands, shoes, yarn, blocks)
- Practice use of standard measurement tools
- Practice using measurement vocabulary
- Sort and order by one attribute
- Use ordinal number words to describe the position of objects (first, second, last)

Effective Practices:

- Show children how to measure with non-standard items
- Provide measuring tools (e.g. rulers, scales, measuring cups) for children to explore and use in their play
- Explicitly discuss and model use of standard measuring tools, using measurement vocabulary
- Engage children in cooking experiences
- Ask questions about measurement (e.g. “How tall are you?” “How much does that weight?” “How many footsteps to the door?”)

ACTIVITIES

Activity:

Learning stations: Teacher provides various items of opposite weight and length. Student chooses the object that is heavier or lighter than and uses the correct vocabulary to describe it, e.g. “This feather is lighter than this tennis ball.”

A balance can be provided for students to self-check their hypothesis.

Activity Prompts:

Teacher: “Can you find an object that is lighter than [this crayon]....?” The teacher should encourage students to use vocabulary such as, “lighter than, heavier than, shorter than, and longer than.” The teacher should ALSO be consistent in

using the given vocabulary.

Evidence Collection Strategies:

- The teacher will observe and document students' ability to describe and compare attributes of length and weight of everyday objects.

Home School Connection:

- Parents should encourage children to use vocabulary such as, "lighter than, heavier than, shorter than, and longer than" when comparing objects at home.