READY for SCHOOL Parent News:
Measurement

Preschool children like to compare objects or people and often want to figure out which is bigger, longer, or heavier. They especially love to compare themselves to others – who is taller, whose hair is longer, who is the oldest, etc. We can take advantage of these opportunities to help children learn the basics of measurement.

Children typically progress through a series of stages in understanding measurement (Copley, 2000):

1) Comprehending that objects can be compared and measured and understanding the meaning of questions like "how long is this?," "how heavy is that?," etc.
2) Making comparisons themselves, such as judging which block in shorter, which rock is heavier, etc.
3) Determining an appropriate unit and process for measurement
4) Using standard units of measurement (inch, pound, centimeter, etc.)
5) Creating and using formulas to help count units

During the preschool and kindergarten years, children primarily focus on stages 1 and 2 and may begin to work on the concept of "unit" in the third step. Steps four and five are typically focused on in the elementary school years.

What kinds of activities encourage the development of measurement in preschool and kindergarten children? Here are a few samples to get you started:

- Use measurement and comparison language frequently in your incidental conversations with your child.
  - "This grapefruit feels really heavy. Is it heavier or lighter than this orange?"
  - "This tablecloth is too short for this table. Let's find a longer one."
  - "Do you think this jug will hold all the juice?"
- Include language that compares time (earlier, later, tomorrow, next week); temperature (warmer, colder); and capacity (holds more, holds less).
- Consider introducing non-standard measurement. "This fire truck is four blocks long." Offer children opportunities to practice non-standard measurement. "Let's see how many hands long this rug is."
- You can also incidentally introduce standard measurement language (Talk about gallons, liters, yards, meters, etc. during your daily life as you pour milk or juice, measure wood for a home improvement project, etc.)
- You might provide a plastic bin filled with water or cornmeal as a place for your child to practice with volume and capacity. As children pour from a tall, thin cylinder to a short, fat cylinder, for example, they are developing a concept that Jean Piaget called "conservation." If a child understands the concept of conservation of volume, he/she knows that a tall, thin container can hold the same as a short, fat container. Piaget's research showed that children learned to conserve around age seven or later. More recent research has been showing children conserving earlier than that.
- Provide tools for measurement for children's easy access throughout the day (rulers, meter sticks, bathroom scales, etc.).

Reference:

Copley, J. V. (2000). *The Young Child and Mathematics.* Washington, DC: National Association for the Education of Young Children.