Welcome to Year 2 of Erikson Early Math iNNOVATIONS!

erikson
early mathematics education

Introductions

Share one way that you have measured in the past 24 hours.

Ordering Objects by Size

- Arrange your group's set of objects from biggest to smallest. Use sticky notes to number the order.
- Then, arrange your objects from biggest to smallest ***in a different way***. Again, number the order.
- Repeat, if possible.

Attributes

What kind of "BIG" is it?

How do we compare?

The Long and the Short of It

by Cheryl Nathan and Lisa McCourt

Is your foot longer or shorter

than a milk carton?

Using Hands to Compare

- What's longer than your hand?
- What's shorter than your hand?

Video Analysis

Just Right for Me in Pre-K

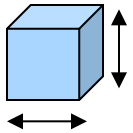
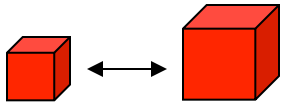
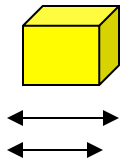
Quantifying Measurements

How much longer?

How much shorter?

How much precision is needed?

Big Ideas about Measurement

Topic	Big Ideas	Examples
Attributes 	• Many different attributes can be measured, even when measuring a single object.	• A bucket has many measurable attributes, including height, weight, capacity, or circumference: *What kind of "big" is it?*
Comparison 	• All measurement involves comparison. •To be accurate, measurement must be "fair."	•Weighing rocks on a pan balance (direct); using a length of string to measure a table in one room and chairs in another (indirect). •A fair comparison measures the same attribute. **Units** must be of equal size, with no gaps or overlaps.
Precision 	•Quantifying a measurement helps us describe and compare more precisely.	•Nonstandard **units** (such as blocks) and standard **units** (such as inches) allow for more precision than direct comparison. •There is always a more precise measurement possible – we never get it exactly "right," but it must be "good enough."

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Wally's Stories: Rulers

A Conversation in Kindergarten

Making Rulers

What are the rules of rulers?

Units of Units

Why do units matter?

Broken Ruler Tasks

Work with a partner to measure the objects from the ordering set using a broker ruler.

What makes this task difficult?

What mistakes might children make?

Considering CCSS for Mathematical Practice

Which of these eight practices were evident in our work this morning?

Introductions

Make a tower using one cube per letter in your first name.

Line up in order of length of name.

Number Line as a Measurement Model

- *Where in your classroom do children see numbers in order?*
- *What is the difference between a number path and a number line?*
- *What is the role of 0?*

Video Analysis

2nd grade clip: Measurement task to deepen understanding of the number line—*Where is 66?*

Kindergarten clip: Using the number line to solve number stories

Linear Measurement Learning Trajectory

- *Where do your students tend to be on the trajectory?*
- *Do you have some new ideas about how to scaffold for understanding?*

Conceptual Understanding of Measurement

- *In what ways have we emphasized concepts over procedures?*
- *How does a focus on the concepts of measurement support number sense?*
- *What concepts relate both to Number and Measurement?*

What is “BIG?”

Final Thoughts from a Read Aloud

Getting Good Math
out of
Good Books