

Indicator #23  
Data

Student classifies, counts and compares quantities.

**Research**

Sorting objects involves noticing, describing, and comparing the attributes of things. With teacher guidance students are able to learn strategies on how to classify items by basic attributes such as color, shape, and size. Once items are sorted they use the systematic approach to identify which group has “more of” or “less of” by making predictions based on how large or small the groups look. For example a child may say, “The group of green blocks is bigger than the group of blue blocks.” Teachers should then encourage students to refer back to their counting skills to identify the number of items in each group to make comparisons. Data analysis is an important part of a child’s learning because they will use the skills learned in this area to help them in all other subject areas. Students of all ages can collect, display, and interpret data to help them answer specific questions.

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).

2.4 PK.A.4

**Classify objects and count the number of objects in each category.**

The learner will:

- Classify up to 10 objects using one attribute and determines which category has “more of”/“less of” the attribute

The learner may also:

- Display the number of objects in each category
- Count and compare the quantities of each category to describe which category has “more of”/ “less of” the attribute

Effective Practices:

- Provide materials to practice sorting and classifying
- Model sorting and classifying
- Use verbal prompts
- Label storage containers with visual prompts to encourage sorting and classifying
- Sing, recite finger plays, and read books that explore different categories
- Ask children about groups (e.g. “Why do these things belong together?”
- Collect objects to use for data collection
- Model organization of data for graphing purposes
- Model, using mathematical vocabulary, comparing data on graphs and charts (e.g. more, equal, less, not equal)
- Make comparisons part of daily routine

## ACTIVITIES

**Activity:**

*Materials:*

Buttons – various sizes and shapes

In a small group, have the students sort buttons by size and/or shape.

**Activity Prompts:**

Teacher prompt, “What do you notice about the different button sizes? Which group of buttons has the most? Which group of buttons has the least? How many are in each group?”

**Evidence Collection Strategies:**

- The teacher observes and documents students' ability to classify objects based on attributes determining which group has "more of" or "less of."

**Home School Connection:**

- Have the child sort socks in the laundry.
- Have the child sort small snacks before eating. (e.g. Rainbow goldfish)
- Have the child sort silverware or coins.

**Activity:**

Learning Stations: Students sort classroom manipulatives (e.g. counting bears, shapes) by color, shape, or any other attribute.

Whole group/Teacher Guided: Teacher will indicate how students should sort e.g. color, shape, size, or another attribute.

**Activity Prompts:**

Teacher can demonstrate using a mini lesson. "Sort your objects by color or shape or size or even length. Once you are done sorting, count how many are in each group."

**Evidence Collection Strategies:**

- The teacher observes and documents students' ability to classify objects based on attributes determining which group has "more of" or "less of."

**Home School Connection:**

- Children can sort coins, crayons, toys, and Legos at home. Children can explain why they sorted their toys accordingly (e.g., why they put board games in one pile and Legos in another.)

ABCYA.com offers a counting, sorting and comparing game under the PRE-K and MATH/Numbers subsections.

[http://www.abcya.com/counting\\_sorting\\_comparing.htm](http://www.abcya.com/counting_sorting_comparing.htm)