



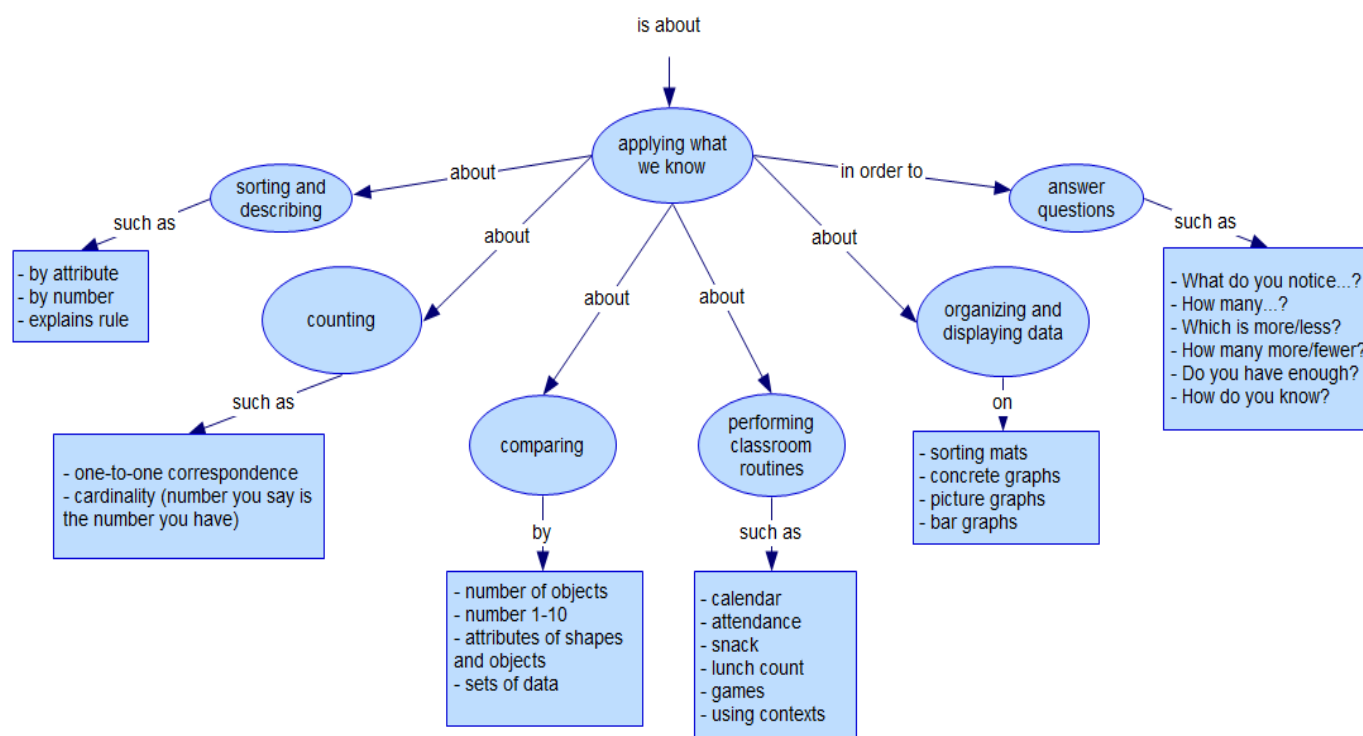
Unit: 4 - Data and Data Representation (Week 18, 4 Weeks)

Common Core Initiative

Overarching Questions and Enduring Understandings

How does data help us make sense of our world?

Graphic Organizer






Unit Abstract

Sorting and classifying collections of objects are staples of a kindergarten math program. Students need opportunities to freely explore material and to determine their own rule or criteria for sorting it. They become aware of the multiple attributes of objects and learn that items can be sorted and organized in multiple ways. They sort by shape, size, color, texture, function, and other physical characteristics. Sorting and comparing activities provide students with opportunities to learn mathematical and descriptive language as they explain and justify the criteria they have used. A natural extension is to count the objects in each of the categories and learn to line them up to compare them. These are activities that students can do over and over in centers, where they determine and share their personal “rule” for sorting. Concurrently teachers often create opportunities for the class to collect information that they graph in different ways. Graphing is typically a class activity, set up to answer a question the teacher or the class has posed. This unit explores sorting, organizing, representing and describing activities in which students are engaged, both individually and as a class, with the mathematics concepts that these activities promote.

[Unit Overview \(Word\)](#)

[Unit Overview \(PDF\)](#)

Content Expectations/Standards	Unit Level Standards
<p>Kindergarten, Counting & Cardinality</p> <p>K.CC.B. Count to tell the number of objects.</p> <ul style="list-style-type: none"> K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality. <ul style="list-style-type: none"> K.CC.B.4a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. K.CC.B.4b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger. K.CC.B.5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects. <p>K.CC.C. Compare numbers.</p> <ul style="list-style-type: none"> K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals. <p>Kindergarten, Operations & Algebraic Thinking</p> <p>K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</p> <ul style="list-style-type: none"> K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. <p>Kindergarten, Measurement & Data</p> <p>K.MD.B. Classify objects and count the number of objects in each category.</p> <ul style="list-style-type: none"> K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. Limit category counts to be less than or equal to 10. 	<p>Not applicable</p>
Essential/Focus Questions	Key Concepts
1. What questions can I investigate? 2. How can I organize data I collect? 3. What are different ways I can represent the data I collect? 4. What do I see/notice about the data? 5. What questions can I ask about the data?	attribute bar graph column compare concrete graph

6. What questions can I answer with the data? 7. How do data help us make predictions?	count data equal fewer graph less more picture graph row sort same amount - descriptive words, e.g., small, big, rough, smooth, bumpy, color
Assessment Tasks	Intellectual Processes
 Assessment Overview	Standards for Mathematical Practice <i>Students have opportunities to:</i> <ul style="list-style-type: none"> • make sense of problems and persevere in solving them when they sort and organize material according to a rule they have determined and when they answer questions about data displayed on a graph; • reason abstractly and quantitatively when they analyze and interpret data that are represented in a data display; construct viable arguments when they explain their rule for sorting a collection of objects or interpret data displayed graph and listen to the reasoning of others; and • look for and make use of structure when sorting and classifying objects or information.
Lesson Sequence	Resources
 Lesson Overview	 Unit Resources

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