



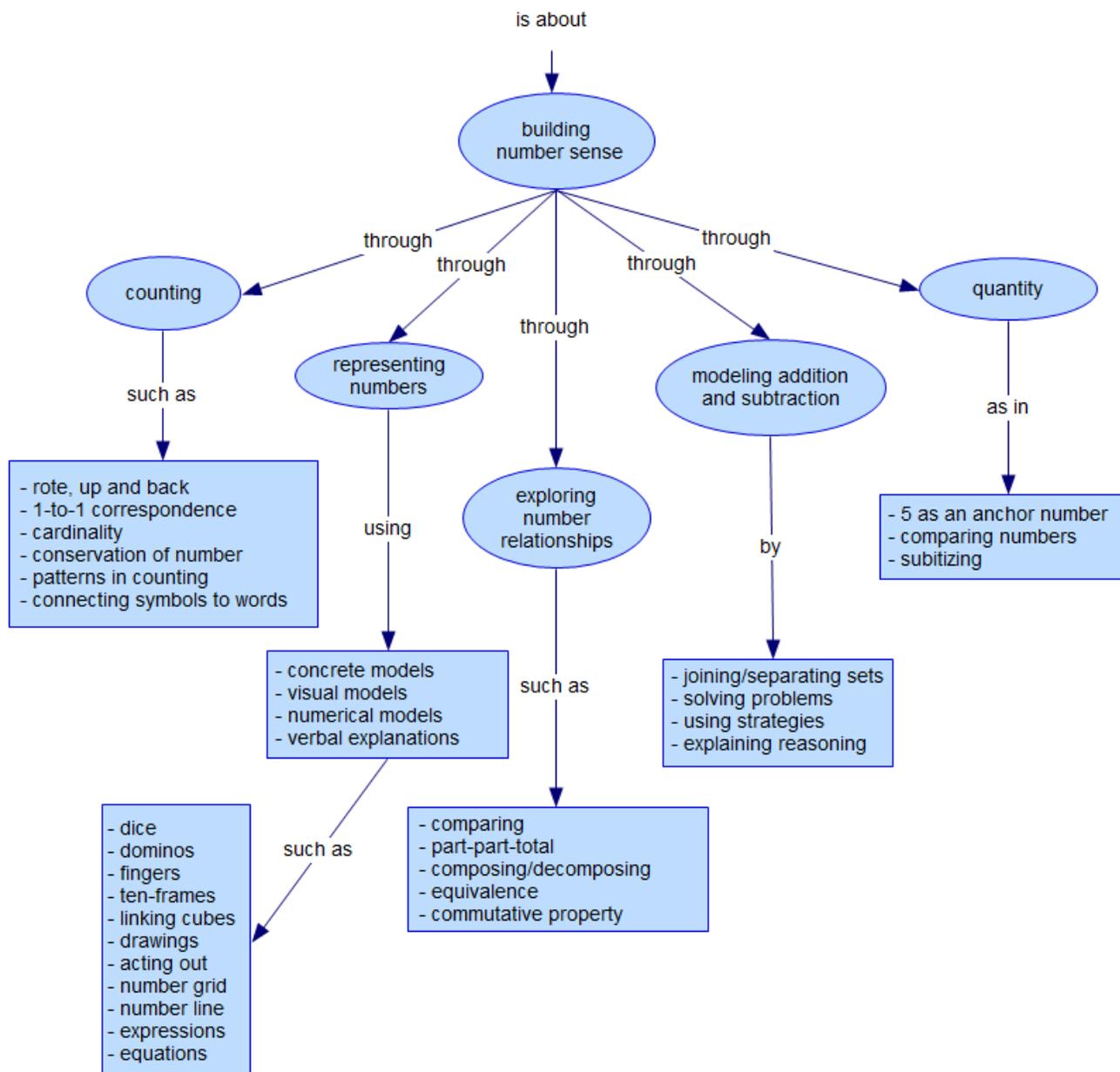
Unit: 2 - Exploring Number (Week 7, 8 Weeks)

Common Core Initiative

Overarching Questions and Enduring Understandings

What do we know about the number five?

Graphic Organizer



## Unit Abstract

In Kindergarten students are learning about number daily. For example, during the class meeting time throughout the year, students should use the 100 grid and other mathematical tools to discuss their developing ideas. In this unit children learn that there is a pattern to counting. They rote count by ones forward to 30 and backward from 10 to 0 and begin to skip count by 10s. They practice counting through songs, rhymes, and games. They practice one-to-one correspondence by counting groups of up to 10 objects. Children represent whole numbers by using concrete objects, by drawing pictures and by writing number symbols (1, 2, 3, ... 10). Students need to have instructional experiences that progress from the concrete to the pictorial to the abstract levels in order to establish a strong foundation of mathematical understanding.

Through the use of manipulatives, children explore how the same number can be represented in different ways, e.g., any group of three objects is represented by the same number, even if the objects are of different size, color, shape or in different positions. They model composing and decomposing quantities from 2 to 5. They also work on recognizing up to 5 objects instantaneously, without counting them. The activities in this unit address several big mathematical ideas or concepts:

- composing/decomposing numbers,
- five as an anchor number,
- equivalence,
- the commutative property for addition,
- subitizing (instant number recognition of a group of objects, e.g., when quickly shown the side of a die or a domino, instantly recognizes the number of dots without counting them).

Students are introduced to the plus sign as a symbol indicating “joining” or addition, the subtraction sign signifying “take away” or subtraction, and the equal sign as an indication of equivalence. They will label numbers they model with expressions and equations.

Teachers encourage students to explain their reasoning by asking probing questions such as “How do you know?”

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

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

## Content Expectations/Standards

### Kindergarten, Counting & Cardinality

#### K.CC.B. Count to tell the number of objects.

- K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
  - 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.C. Compare numbers.

- 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.

## Unit Level Standards

***Please Note: The standards listed in this section have been modified to be appropriate for this unit. Text in gray font is part of the CCSS-M standard but does not apply to this unit. Text in brackets denotes a modification that has been made to the standard.***

### Kindergarten, Counting & Cardinality

#### K.CC.A Know number names and the count sequence.

- K.CC.A.1. Count to 100 [30] by ones and [to 100] by tens.
- K.CC.A.3. Write numbers from 0 to 20 [10]. Represent a number of objects with a written numeral 0-20 [10] (with 0 representing a count of no objects).

#### K.CC.B Count to tell the number of objects.

- K.CC.B.5. Count to answer “how many?” questions about as many as 20 [10] 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 [10], count out that many objects.

### Kindergarten, Operations and Algebraic Thinking

**K.OA.A Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**

- K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10 [5], e.g., by using objects or drawings to represent the problem.

<p><b>Kindergarten, Operations &amp; Algebraic Thinking</b></p> <p><b>K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b></p> <ul style="list-style-type: none"> <li>K.OA.A.1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. <i>Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)</i></li> </ul>	<ul style="list-style-type: none"> <li>K.OA.A.3. Decompose numbers less than or equal to 10 [5] into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., <math>5 = 2 + 3</math> and <math>5 = 4 + 1</math>).</li> <li>K.OA.A.4. For any number from 1 to 9 [4], find the number that makes 10 [5] when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.</li> <li>K.OA.A.5 Fluently add and subtract within 5.</li> </ul>
<p><b>Essential/Focus Questions</b></p> <ol style="list-style-type: none"> <li>How do numbers relate to each other?</li> <li>How do we use numbers to count?</li> <li>How do we use numbers to compare?</li> <li>Why is five a special/helpful number?</li> <li>What can help us to recognize numbers instantly and accurately without counting (subitize)?</li> <li>What does it mean to break apart (decompose) and to combine (compose) numbers?</li> </ol>	<p><b>Key Concepts</b></p> <p>5 as an anchor number  commutative property  comparing numbers  compensation  compose/decompose  counting  equivalence  instant recognition (subitizing)  one-to-one correspondence  part-part-total  quantity  representing numbers</p>
<p><b>Assessment Tasks</b></p> <p> <a href="#">Assessment Overview</a></p> <p> <a href="#">Assessment Student Handout</a></p>	<p><b>Intellectual Processes</b></p> <p><b>Standards for Mathematical Practice</b></p> <p><i>Student will have opportunities to:</i></p> <ul style="list-style-type: none"> <li><b>make sense of problems</b> that focus on number relationships <b>and persevere in solving them</b>;</li> <li><b>reason abstractly and quantitatively</b> when breaking numbers apart, comparing numbers, adding and subtracting;</li> <li><b>model with</b> dot cards and five frames; and</li> <li><b>look for and make use of structure</b> of numbers to five</li> </ul>
<p><b>Lesson Sequence</b></p> <p> <a href="#">Lesson Overview</a></p> <p> <a href="#">Creating fives student handout</a></p> <p> <a href="#">Creating sixes student handout</a></p> <p> <a href="#">Number Pairs Powerpoint</a></p> <p> <a href="#">Professional Learning Task</a></p>	<p><b>Resources</b></p> <p> <a href="#">Unit Resources</a></p> <p> <a href="#">5-Frame - quick images</a></p> <p> <a href="#">Dominos to 5 - quick images</a></p> <p> <a href="#">Dot Cards - quick images</a></p> <p> <a href="#">Dueling Dragons</a></p> <p> <a href="#">Professional Learning Task– After the Lesson: Using Partners to Extend the Developing Number Sense Lesson</a></p> <p> <a href="#">Professional Learning Task–Adding and Subtracting to Five Fluently: Using a Game to Practice</a></p>

[<< Previous Year](#)

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