Domain: Operations and Algebraic Thinking

Grade: K

Core Content

Cluster Title: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Standard 3: Decompose numbers less than or equal to 10 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., 5 = 2 + 3 and 5 = 4 + 1).

MASTERY Patterns of Reasoning:

Conceptual:

Students will understand how to separate numbers (less than or equal to 10) into number pairs.

Students will understand how to show number pairs with objects or drawings.

Students will understand how to write number pairs with drawings or equations.

Students will understand how to use the symbols (+, -, =) of addition and subtraction to write an equation.

Procedural:

Students can identify and name the number pairs of a given number.

Students can record the number pairs of a given number with drawings.

Students can record the number pairs of a given number with equations.

Students can correctly use the symbols of addition/subtraction when writing an equation.

Representational:

Students can model the number pairs of a given number with objects.

Students can model the number pairs of a given number with drawings.

Students can model the number pairs of a given number with equations.

Students can model the correct use of addition/subtraction symbols when writing an equation.

Code: K.OA.3

Domain: Operations and Algebraic Thinking

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Supports for Teachers

Critical Background Knowledge

Conceptual:

Students can write numbers 0-10.

Students will understand that the last number name said tells the number of objects counted.

When counting objects, students will understand that each successive number name refers to a quantity one larger (K. CC4).

Students will understand that the number of objects in one group is greater than, less than, or equal to the number of objects in another group (K. CC6).

Procedural:

Students can count the number of objects in a set and write the corresponding numeral.

Representational:

Students can represent the number of objects with a written numeral (K. CC3).

Students can model the number of objects in a set and write the corresponding numeral.

Students can correctly represent a written numeral with objects.

Academic Vocabulary and Notation

join, add, addend, addition, equal to, equation, expression, subtract, sum, difference, plus, minus, separate, combine, put together, total, take away, compare, take apart

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Instructional Strategies Used	Resources Used
Teacher can model decomposition of numbers with story problems on the	Harvey, Jayne. Cat Show (All Aboard Math
board and in pictures to introduce the topic.	Reader). Grosset & Dunlap, 2003.
Students use two-sided counters in a container to "shake out" different number combinations (e.g., students are given a cup, five two-sided counters, and a paper with five blank five-frames on it. They shake and toss out their counters, and record by coloring on their five-frames the	O'Brady, Terry. Count the Animals (Windows on Literacy). National Geographic School Publishing, 2002.
various number combinations).	Jenkins, Emily. <i>Five Creatures.</i> Farrar, Straus and Giroux, 2005.
The teacher can model with students different number combinations of friends in their class (e.g., have five students come up, discuss the different combinations such as girls/boys, laced shoes/non-laced shoes, long hair/short hair, etc.).	Crews, Donald. <i>Ten Black Dots.</i> Greenwillow Books, 2010.
Play games involving decomposing numbers (e.g., "The Bears Went	Sturges, Philemon. <i>Ten Flashing Fireflies</i> . North-South/Night Sky Books, 1997.
Over the Mountain," "Hide Bears in the Cave," "Math Story Maps," "Math Mountains").	Music: (Do an Internet search for these composers if
Sing various songs (e.g., "Five Speckled Frogs," "Five Little Monkeys," "Five Little Ducks").	you are interested in music for this standard.)
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	Dr. Jean
	Raffi
	Jack Hartman

Assessment Tasks Used

Skill-Based Task:

Teacher will participate in a matching card activity. See example below.

$$3 + 2 = 5$$

Problem Task:

Students will be given seven two-sided counters and will be asked to show a minimum of three combinations of seven. Students will record their results with a drawing or equation.

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