Core Content

Cluster Title: Understand and apply properties of operations and the relationship between addition and subtraction.

Standard 4: Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

MASTERY Patterns of Reasoning:

Conceptual:

Students will understand that subtraction as an unknown-addend problem can help find answers to problems.
Students will understand how to count on from a given number to get to the whole (e.g., given the number 8, add on 2 more to get the whole: 8 + ☐ = 10).

Procedural:

Students can use the counting on strategy to solve an unknown-addend problem.

Representational:

Students can model counting on to solve an unknown-addend problem.

Supports for Teachers

Critical Background Knowledge

Conceptual:

Students will know the commutative property of addition.
Students will know how to count on in an equation.

Procedural:

Students can switch the parts within a given equation.
Students can count on from the part to equal the whole.
Students can find a missing number addend.

Representational:

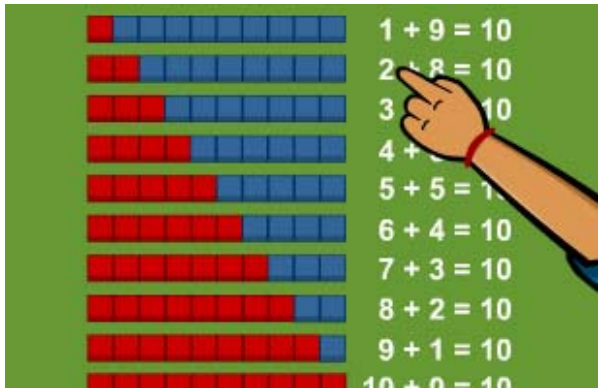
Students can model subtraction number equations.

Academic Vocabulary and Notation	
commutative property, counting on, fact family, number bond, subtract/minus, addend, whole, sum	
Instructional Strategies Used	**Resources Used**
Teachers may begin instruction with teacher modeling a guided practice for the number equation. Then the teacher may continue the guided practice by using their students to solve the number equations. Next, allow the students to practice and solve the number equations independently. Use the abacus and ten frames for this standard. <u>Making Ten Memory</u> From two standard decks of cards, collect the ace through ten as well as the joker, which will represent zero. Then have your child play a game of "memory." He/she can match the numbers that can be added together to make ten. Make sure your child writes down the number sentences during or at the end of the game.	First Grade Math Skills List: http://www.ixl.com/math/grade-1 RightStart Mathematics: http://www.alabacus.com BrainPOP Interactive Tools: http://www.brainpop.com The Learning Box Online Tools: http://www.learningbox.com Illuminations Activities: http://illuminations.nctm.org

Domain: Operations and Algebraic Thinking Grade: 1

<u>Ten in the Bag</u>

Place different numbers of items, such as counters, beads, dried beans, or crayons, in clear bags. Then challenge pairs or small groups to figure out how many more items are needed in order to have a total of ten in the bag. Students can write number sentences, or create missing addend sentences to solve. They can find the other students in the room who have their missing amount to complete a perfect 10!



Assessment Tasks Used

Skill-Based Task:

Example: 15 + ☐ = 18; therefore, 18 – 15 = 3

(NOTE: Students are given an equation where the addend is unknown. Then they take the given part, and count on to reach the whole. This is the same as subtracting the whole from the given part.)

Problem Task:

I have 11 grasshoppers in my collection. I want to have 18 grasshoppers. How many more grasshoppers do I have to collect? Represent the problem two ways—as an unknown-addend and as subtraction. Write the equations. Then solve the equation.

Write your own unknown-addend problem. Give it to your elbow partner to solve.

Code: 1.OA.4