

# Understand Addition as Putting Together and Adding To and Subtraction as Taking Apart and Taking From

## Key Content from This Unit:

*In this unit*, kindergarteners use objects, fingers, mental images, and drawings to represent addition *and* subtraction. They solve addition *and* subtraction word problems that are presented orally to them. Students add *and* subtract within 10, using objects or drawings to represent the problem. They also decompose numbers less than or equal to 10 into pairs in *more than one way*, using objects or drawings. Students record the decompositions with a drawing. Kindergarteners also find the number that makes 10 when added to a given number (1–9). They record this information with objects and drawings. For example, *You have 4 kittens. How many more do you need to make a group of 10?*

## Vocabulary to Know:

**Addition:** to combine; put together two or more quantities

**Counting back:** a way to subtract, starting with the bigger number and counting back from there

**Counting on:** a way to subtract by, starting with the smaller number and counting on to the total

**Difference:** the difference between two numbers, the answer to a subtraction equation

**Missing Addend:** A strategy for subtraction when you use addition, like to solve  $9 - 5 = ?$ , think  $5 + ? = 9$

**Subtraction:** To take one quantity away from another quantity

## What came before this:

Early in the year, students understand that addition is putting together and adding to. They represent addition with objects, fingers, mental images, acting out, sounds, and verbal explanations. Students also solve addition word problems and add within 10, using objects or drawings to represent the problem. They decompose numbers less than or equal to 10 into pairs by using objects or drawings.

## What comes after this:

Later in the year, students are introduced to writing equations as a method of representing a mathematical situation. This provides an additional way to record a mathematical situation involving addition and subtraction.

## Common Core Focus:

- Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, and expressions.
- Solve addition and subtraction word problems, and add and subtract within 10 using objects and pictures to represent the problem.
- Decompose numbers less than or equal to 10 into pairs in more than one way using objects and drawings.
- Record decompositions with drawings.
- For any number from 1 to 9, find the number that makes 10 when added to the given number using objects and drawings. Record answers with drawings.

K.OA.1, K.OA.2, K.OA.3, K.OA.4

## Spotlight on the Math Practices

### *Look for and Express Regularity in Repeated Reasoning*

Mathematically proficient students can look both for general methods and for shortcuts and continually evaluate the reasonableness of intermediate results. In this unit, students *look for and express regularity in repeated reasoning* when they:

- Use strategies besides counting by ones to calculate addition and subtraction
- See if their answers make sense
- Change strategies midstream if their initial results are not reasonable.

## How Can You Help?

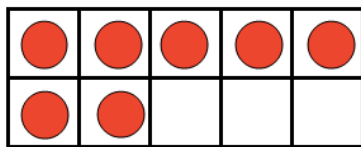
- Ask your child to act out story problems to find out the result when objects are taken apart or taken from a total group.
- Help your child describe and act out a variety of addition and subtraction situations (i.e., join, combine, come, add, take away, leave, split...). Don't focus on the equations at this time.
- Count out a number of objects (10 or less) and have your child tell you all of the possible combinations (i.e., 6 objects can be grouped 1 and 5, 2 and 4, and 3 and 3)

## KEY MATHEMATICAL MODELS of the COMMON CORE

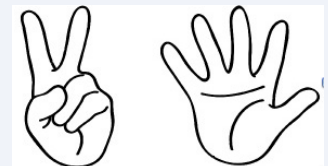
### Anchor in TEN

It is important that students understand the idea of ten so that they can use that understanding as a foundation for understanding our base-ten number system. Kindergarteners use a variety of materials to develop an understanding of numbers anchored in 5 and then later in the year use that understanding to anchor in 10. Finger flashes, ten frames, rekenreks and tallies are some of the models that help students see numbers in relation to five and ten. They eventually need to see one ten as being made up of ten ones, which is a difficult concept for many children.

In kindergarten, students should master their ten-friendly numbers (0 and 10, 1 and 9, 2 and 8, 2 and 7, 4 and 6, 5 and 5) and develop the strategy of adding onto 10 in order to add within 20 in Grade 1. This is important for future mental math and fact fluency.



7 is 5 and 2 more AND  
7 is 3 less than 10



## Some Resources to Help at Home

- <http://www.topmarks.co.uk/Flash.aspx?f=TakeAway> has interactive subtraction stories.
- [http://www.curriculumsupport.education.nsw.gov.au/countmein/children\\_butterfly\\_ten\\_frame.html](http://www.curriculumsupport.education.nsw.gov.au/countmein/children_butterfly_ten_frame.html)
- <http://www.k-5mathteachingresources.com/addition-and-subtraction-activities.html>
- <http://illuminations.nctm.org/Activity.aspx?id=3566> Add and subtract with Okta
- <http://www.fuelthebrain.com/games/ace-of-numbers/> Missing addend card game