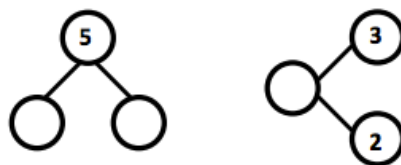


Number Pairs, Addition and Subtraction to 10

Module 4 marks the next exciting step in math for kindergarten students: addition and subtraction! We will start with composing and decomposing numbers using number bonds (see reverse), and move toward work with addition and subtraction equations.



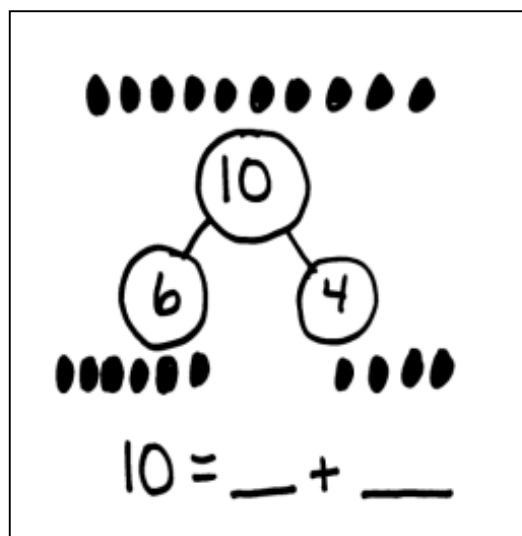
$$5 = \underline{\quad} + \underline{\quad}$$

$$3 + 2 = \underline{\quad}$$

Number bonds, seen above, are models that help students see the part/part/whole relationships within a given number.

Words we will use in this module:

- Addition
- Addition and Subtraction sentences (equations)
- Make 10 (combine two numbers from 1-9 that add up to 10)
- Minus (-)
- Number bond (mathematical model)
- Number pairs or partners (embedded numbers)
- Number sentence ($3 = 2 + 1$)
- Part (addend or embedded number)
- Plus (+)
- Put together (add)
- Subtraction
- Take apart (decompose)
- Take away (subtract)
- Whole (total)



What Came Before this Module: We compared lengths, weight, and capacity, and then worked with comparing numerals.

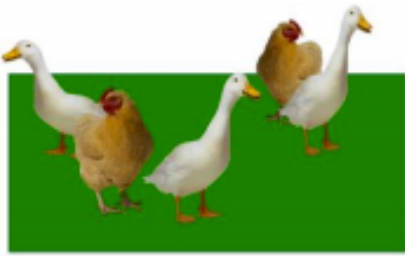
What Comes After this Module: Students will work on their understanding of teen numbers, and work on counting to 100 by ones and by tens.

+ How you can help at home:

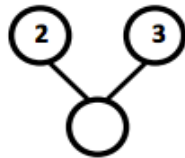
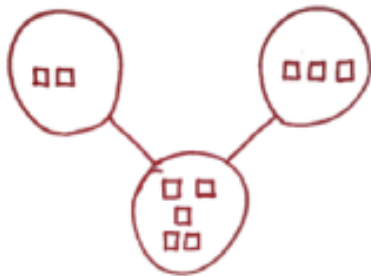
- Continue to compare groups of objects up to 10, asking more- and less-than questions
- Give your child some Cheerios and ask her to show how many more are needed to make 10
- Review and practice counting numbers up to 30, or as high as possible

Key Common Core Standards:

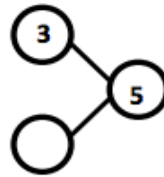
- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
 - Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, etc.
 - Solve addition and subtraction word problems, and add and subtract within 10.
 - For any number from 1 to 9, find the number that makes 10 when added to the given number.
 - Fluently add and subtract within 5.



Some sample types of number bonds seen in Kindergarten. Note how the number bonds can use either drawings or numerals to show the number relationships.



$$2 + 3 = \underline{\quad}$$



$$5 - 3 = \underline{\quad}$$

Spotlight on Math Models:

Number Bonds

Students will use this model to show part/part/whole relationships within numbers.

A Story of Units has several key mathematical models that will be used throughout a student's elementary years.

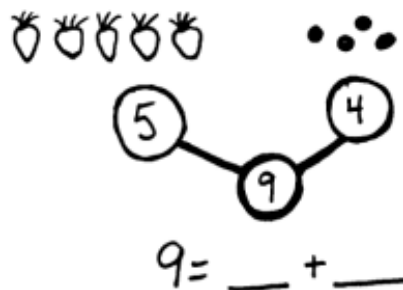
The number bond is a pictorial representation of part/part/whole relationships showing that smaller numbers (the parts) make up larger numbers (the whole). The number bond is a key model for showing students how to both take apart (decompose) and put together (compose) numbers with ease. This in turn leads directly to their emerging addition and subtraction skills.

In Kindergarten, students first become fluent with number bonds to 5, and then build understanding of the very important number 10. As students become more comfortable using number bonds, the bonds may be presented in different orientations (e.g. the whole not always on top).

Sample problem from Module 4:

Toby had 9 tasty berries. Five were strawberries and 4 were blueberries. How many berries did he have in all?

(Sample taken from Module 4, Lesson 29)



Tips for parents