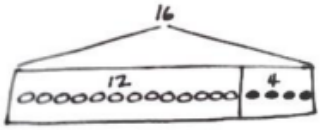
Grade 1 Module 4

Place Value, Comparison, Addition and Subtraction to 40

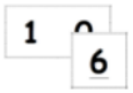
In this 35-day module, students will study, organize, and manipulate numbers within 40. They will compare number quantities, using the symbols for greater and less than (>, <). Students will work with adding and subtracting tens and will begin to add two-digit numbers.

Some ways to show two-digit numerals:



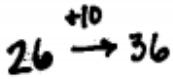
Tape Diagram

Place Value Chart

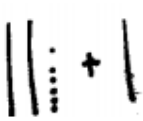


Hide Zero Cards

Some ways to indicate addition with groups of 10:



Arrow Notation



Quick Ten

What Came Before this Module: Students worked with non-standard units to measure objects, and to compare and order objects by length.

What Comes After this Module: In this geometric module, we will review basic shapes, use them to create composite shapes, and discuss ideas like "whole", "half" and "fourths".

Key Words and Ideas in this Module:

greater than - shown by the symbol >, e.g. 10 > 4

less than - shown by the symbol <, e.g. 4 < 10

place value - quantity represented by a digit in a particular place within a number, e.g. the "1" in the number 17 represents a ten

Familiar Terms from past Modules:

equal - e.g. 2 + 6 = 4 + 4
ones
tens
numerals

Some tools/representations we will use:

arrow notation
hundreds chart
place value chart
rekenrek
number bonds
tape diagram

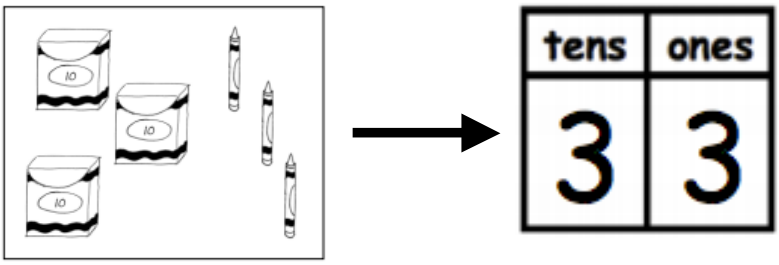
+ How you can help at home:

- Continue to practice counting up to 40 or beyond
- Continue to ask your student to compare two different quantities, using the language "greater than" and "less than"
- Begin to ask questions such as "What does the 2 represent in the number 29?"

Key Common Core Standards:

- *Represent and solve problems using addition and subtraction*
- *Extend the counting sequence to 40* *(In first grade, we will eventually count to 120)*
- *Understand place value*
  - *Understand that the two digits of a two-digit number represent amounts of tens and ones.*
  - *Compare two two-digit numbers based on meaning of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.*
- *Use place value understanding and properties of operations to add and subtract.*

The place value chart at this point in 1st grade consists of two boxes; the one on the left labeled "tens" and the one on the right labeled "ones".



Place Value Chart

Students will be asked initially to match a number of objects with the correct representation on the place value chart. Later, they use the chart more abstractly to add two-digit numbers.

Spotlight on Math Models:

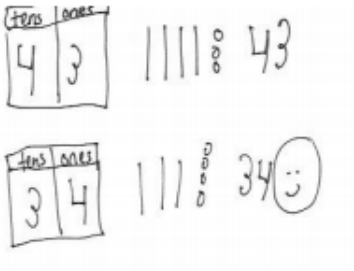
Place Value Chart

You will see this mathematical representation throughout the grades in *A Story of Units*.

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

The place value chart is a graphic organizer that students can use to see the coherence of place value and operations between different units. Use of the place value chart begins in Grade 1 as students learn about tens and ones, and continues through the use of decimals in Grade 5. The place value chart is a flexible tool. Young students can place chips on the chart, and physically move them as they bundle and group numbers. Older students can quickly create their own place value charts to illustrate their thinking for a problem and show their understanding of more complex numbers.
In first grade, students use the chart extensively as they work to build their understanding of numbers up to 100, and will often be asked to use the chart to illustrate what each numeral in a digit represents.

Sample Problem from Module 4
(From Lesson 3):
Sue is writing the number 34 on a place value chart. She can't remember if she has 4 tens and 3 ones or 3 tens and 4 ones. Use a place value chart to show how many tens and ones are in 34. Use a drawing and words to explain this to Sue.



This sample solution shows both a correctly filled-in place value chart as well as a drawing illustrating the difference between 34 and 43.

Tips for parents

COMMON CORE consider the Source