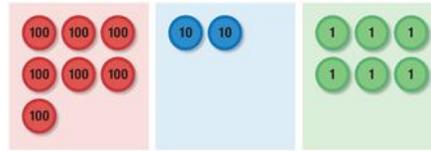## Place Value, Counting, and Comparison of Numbers to 1,000

In this 25-day module, students expand their skill with and understanding of unit by bundling ones, tens, and hundreds (up to a thousand) with straws or sticks. They solve simple problems that require an understanding of place value as a system based on repeated groupings by 10.

We are working on many different ways to represent two- and three-digit numbers!

Unit form modeled with number disks:
7 hundreds 2 tens 6 ones = 72 tens 6 ones

Ten ones are bundled into a ten.

Ten bundles of ten are bundled into a hundred.

What Came Before this Module:
We worked on measurement with various tools, and related our work to addition and subtraction.

What Comes After this Module:
We will continue to work on adding and subtracting fluently within 100, and build conceptual understanding up through 200.

Key Vocabulary:

Standard Form: e.g. 576

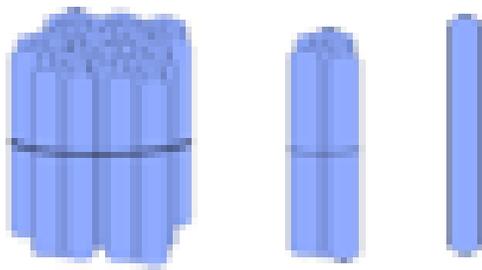**Expanded Form:** e.g. 576 = 500 + 70 + 6

Word Form: e.g. Five hundred seventy-six

Unit Form: Stating the amount of hundreds, tens, and ones in each number, e.g., 11 is stated as *1 ten 1 one*, 27 as *2 tens 7 ones*, 100 as *1 hundred*, and 576 as 5 hundreds, 7 tens, 6 ones

Base-Ten Numeral: The idea that 1000 equals 10 hundreds, 100 equals 10 tens, and so on

Bundling: Putting smaller units together to make a larger one, e.g. putting 10 tens together to make a hundred

Regrouping: Renaming, (instead of "carrying" or "borrowing,") e.g., a group of 10 ones is "renamed" a ten when the ones are bundled and moved from the ones to the tens place

How you can help at home:

-Ask how many ones, tens, and hundreds are in numbers that you and your student come across

-Continue to review addition and subtraction skills

-Help your student begin to compare numbers by asking questions about "more than", "less than", and "equal"

Key Common Core Standards:

Understand Place Value

More specifically:

- Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones
- Count within 1000, skip-counting by 5s, 10s, and 100s
- Read and write numbers using base-ten numerals, number names, and expanded form
- Compare three-digit numbers using >, <, and =

A classroom model of bundles created to show the number 476...

Hundreds	Tens	Ones
4	7	6

...will build the foundation that enables students' transition to writing the numerals in the place value chart.

Spotlight on Math Models:

Bundling

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

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

A model used primarily in grades K-2, bundles are discrete groupings of place value units (tens, hundreds, thousands). Students or teachers easily make them by placing a rubber band or twist tie around straws, popsicle sticks, or coffee stirrers. But these humble models are a key step in the transition that students must make from the very concrete (seeing the bundled popsicle sticks), to the more abstract place value chart, and finally to working with pure numbers in computation.

Bundled numbers can also be "unbundled", e.g. a group of 10 can be broken apart into its component 10 ones when needed for subtraction. Students will use this same concept when they work with division in the upper grades. Bundling and unbundling are critical skills for students to have as a tool for our continued work with place value and operations.

Module 3 Sample Problem
(from Lesson 6)

Timmy the monkey picked 46 bananas from the tree. When he was done, there were 50 bananas left.

How many bananas were on the tree at first?

This problem was solved using place value disks, yet another way of representing base-ten numerals.

COMMON CORE™ *consider the source*