

Understand place value (Standards 2–3).

Standard 1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

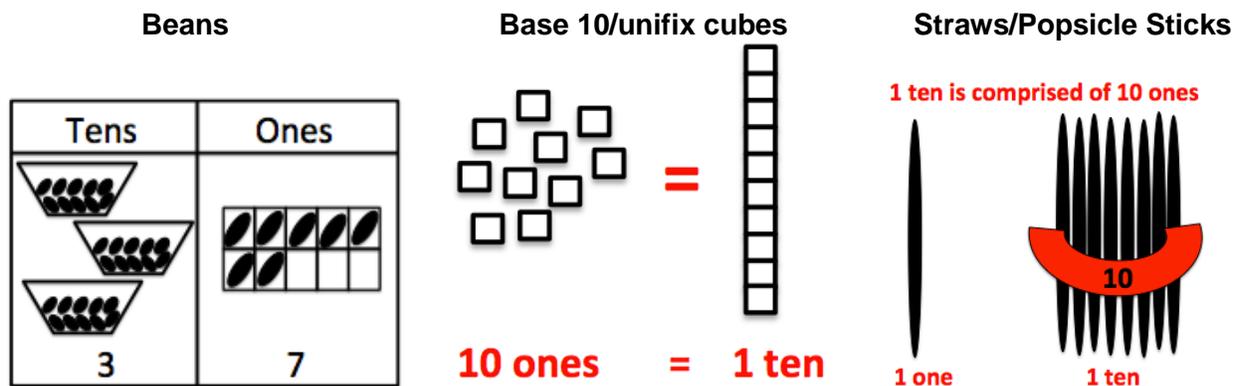
- 10 can be thought of as a bundle of ten ones, called a "ten."
- The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Key Elements: a ten is comprised of ten ones, teen numbers are made of a group of ten and various amounts of ones (1-9), decade numbers represent specific amounts of tens

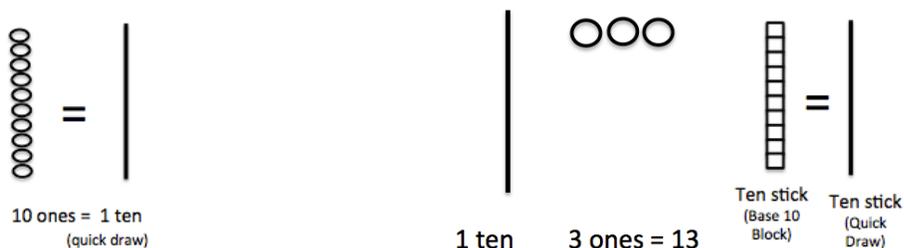
Please note: Conceptual understanding of these concepts will build towards requirements in second grade where students will need to think of a bundle of ten tens as 1 hundred (2.NBT.1).

A “ten” is Comprised of Ten Ones

One way to teach this idea is through physical manipulation of single objects, such as beans. You can have students take beans one at a time to fill up a ten frame. Then they can slide the beans into a little cup and use the cup plus extra ones to represent a number. You can do this work in a t-chart showing tens and ones for added visual support. Other models include a bundle of straws or popsicle sticks, base ten blocks, unifix cubes, etc. Students will also need to understand and produce the quick draw representation (see drawing below).



Quick Draws



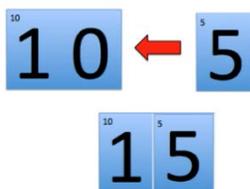
Teen Numbers

Students will need to understand that after 9, numbers are made of two digits, the tens digit and the ones digit. In teen numbers, the “1” digit in the tens place represents 1 ten (1 group of ten) and the digit in the ones place represents how many extra ones there are in the number.

Students will benefit from working with manipulatives to build and interpret representations of teen numbers. Once students understand that a ten is made of ten ones, you can use a ten to represent the number ten, then add extra ones to it as you count and build with students one by one to build each of the teen numbers in progressive order. (1 ten and 1 one =11, 1 ten and 2 ones= 12, 1 ten and 3 ones=13, etc). You can choose to use a tens/ones t-chart for added support. Once students have been introduced to this concept, you can write or say a number and students can practice building teen numbers where the “1” in the tens digit remains the same, but the digit in the ones place varies out of order. (Build 15, 13, 19, 17, etc).

Tens	Ones
	

Students will also need to be able to discern from the numeric teen representation how many tens and ones are in the number. A visual model that might benefit students is the “hidden zero” model. Math Expressions refers to this as the “Secret Code Cards” in unit four lesson two. Using one decade card (in the case of teen numbers, a card with a 10 on it) and another card with a digit from 1-9 written on it, students can build a teen number and see how many tens there are in the number and how many ones. Students can build and take apart these cards to

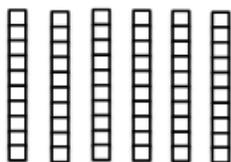


build understanding of how teen numbers work.

Decade Numbers

Once students understand that a ten is made of ten ones, then the number increases one-by-one through the teen numbers, they will need to know what happens after 1 ten and 9 ones. Because our number system is in base ten, once there are enough ones to make a new ten, a new ten is made. Students need to know the names of the new tens, as well as be able to tell how many tens are in each decade number. The teacher can build with manipulatives a decade number. Then she can ask students how many groups of ten (tens) there are in that number.

Base ten/unifix



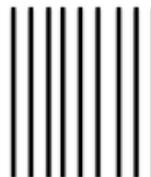
6 tens = 60

Bean cups



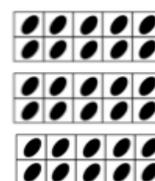
4 tens = 40

Quick Draw



9 tens = 90

Mini Ten Frames



3 tens = 30