Understand place value (Standards 2–3).
Standard 1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Key Elements: compare, meaning of tens and ones (expanded form), using >, =, and <
*Key concepts/vocab not listed in the standard:* how to compare, digit, 2-digit number, meaning of symbols >,<, =

Compare
In this case, students need to understand that when they *compare* things, they are looking at what is the same/different in a pair of numbers. Students will determine if the first number in a pair is greater than, less than, or equal to the second number. Students will need to know how to **determine** which comparative phrase to use and **why** the first number is greater than, less than or equal to the second number.

Students will need to have the conceptual understanding that if a number is greater than the second number, it has more tens, more ones or both. And because there are more tens, composed of ones, the number has more ones and is therefore is larger. If a number is less than the second number, it has fewer tens, ones, or both. And if a number is equal to a second number, the two numbers have the same amount of tens and ones.

Visual Models used in Comparison
It is very helpful to have students build/draw each number in the set they are comparing. That way, representations of tens and ones can easily be visually compared. Like terms can be easily identified and compared. To help develop the conceptual understanding, you may also have students compare numbers through the written or verbal forms of "greater than, less than, or equal to" before introducing the symbols.
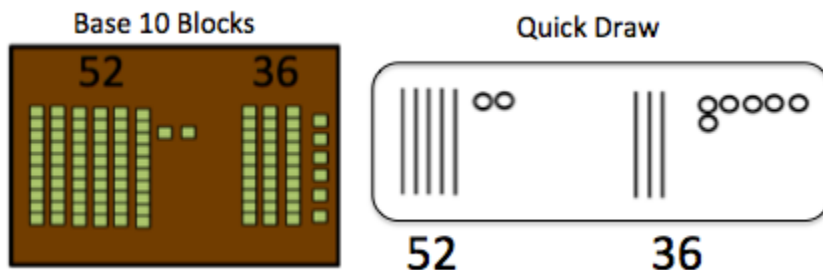
Meaning of Tens and Ones Digits (Expanded form)
Students will use the conceptual understanding they built from 1.NBT.2 to explain the value of digits in the tens and ones place. For example, if there is a "5" in the tens digit, students will understand it represents five groups of ten, for a total of fifty ones in the tens place. If students see a "2" in the ones place, they will understand that it represents 2 single ones. Added together, there are 52 ones pieces, organized into five groups of ten and two single ones (see

base ten modeling cubes). If students are still struggling with this concept, it may be helpful to
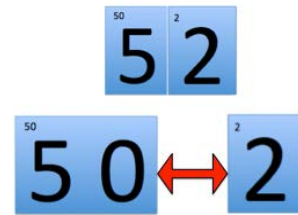
use the "Secret Code Cards" from the Math Expressions book.

You can also use styrofoam cups as another representation of expanded form. This is a great tool because many numbers can be easily expanded with one tool. (*Pic from link below)

When students understand the meaning (value) of digits in each place, they can compare like terms. *It is suggested that students first compare the tens digits first and then the ones digit.*
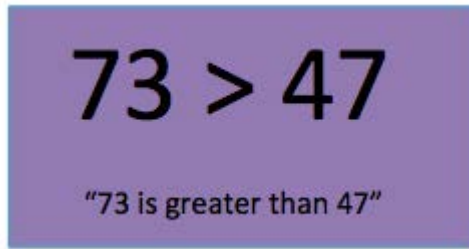
5 is greater than 3, so 50 is greater than 30, and
52 is greater than 36.

Using >,=, and <
Once students are able to correctly use the language "greater than, less than, and equal to," when comparing a set of numbers, students will be ready to use symbols to represent these concepts. Students will need to remember which sign is which and need to be encouraged to "read" the whole mathematical comparison in order to ensure that the sign they used to compare the two numbers indeed makes sense. (See picture). Often, students notice that the symbol always "eats" the larger number. Another important element in comparing statements is

that they can be read in reverse, in which case the meaning of the sign is altered and in

73 > 47

"73 is greater than 47"

essence "flipped".