

Mathematics: Number and Operations in Base Ten

2.NBT.4

Cluster Heading: 2.NBT.A Understand place value.

Content Standard(s): 2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Practice Standard(s): MP.1 Make sense of problems and persevere in solving them. **MP.7** Look for and make use of structure.

Problem/Task Suggestions

True or False

Are these comparisons true or false?

1. 2 hundreds + 3 ones $>$ 5 tens + 9 ones
2. 9 tens + 2 hundreds + 4 ones $<$ 924
3. 456 $<$ 5 hundreds
4. 4 hundreds + 9 ones + 3 ones $<$ 491
5. 3 hundreds + 4 tens $<$ 7 tens + 9 ones + 2 hundreds
6. 7 ones + 3 hundreds $>$ 370
7. 2 hundreds + 7 tens = 3 hundreds – 2 tens

Differentiation:

Supports:

- Have place value disks available that students can use as a reference.
- Have base ten blocks and mats available that students can use as a reference.
- Ask students to write the equivalent number as an intermediate step to solve the problem.

Extensions:

- <http://www.illustrativemathematics.org/illustrations/575>

Solution: <http://www.illustrativemathematics.org/illustrations/111>

Formative Assessment Suggestions

Observation:

- Does the student have the ability to compare numbers that are identical by word names and not just digits?
- Does the student think carefully about the value of the numbers especially due to the fact that the order of the numbers described in words are intentionally placed in a different order?
- Does the student need to use the manipulatives (base 10 blocks) to understand place value?
- Can the student compare the results through the use of the number line?

Questions to Guide Student Thinking:

- How are digits in your number related?
- How can you justify your results?
- Can you show me how many ones, tens, and hundreds you have?

Misconceptions

Students may:

- Not understand base-ten notation such as 12 ones is the same as one ten + two ones.
- Not understand the properties of addition such as the commutative property.

Vocabulary Considerations

- Ones, tens, hundreds, greater than, less than, equal to, digit

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