MA.1.NSO.1.4

Overarching Standard: MA*.1.NSO.1 *Extend counting sequences and understand the place value of two-digitnumbers.

Benchmark of Focus

MA.1.NSO.1.4: Plot, order and compare whole numbers up to 100.

Example: The numbers 72, 35 and 58 can be arranged in ascending order as 35, 58 and 72.

Benchmark Clarifications:
Clarification 1: When comparing numbers, instruction includes using a number line and using place values of the tens and ones digits.
Clarification 2: Within this benchmark, the expectation is to use terms (e.g., less than, greater than, between or equal to) and symbols (<, > or =).

Related Benchmark/Horizontal Alignment.

- MA.1.NSO.2.3
- MA.1.M.1.2

Vertical Alignment

Previous Benchmarks	Next Benchmarks
• MA.K.NSO.2.3	• MA.2.NSO.1.3

Purpose and Instructional Strategies
The purpose of this benchmark is for students to understand that the value of a digit is impacted by its position in a number. A three in the tens place has a value of 30 while a 3 in the ones place has a value of 3. In Kindergarten, students located, ordered and compared numbers from 0 to 20 using the same number line. Students fill in missing numbers on a number a line. Kindergarten students are not expected to use the relational symbols =, > or < when comparing numbers. *(MTR.5.1)*

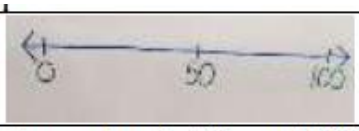
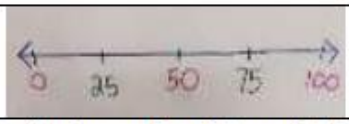
- Instruction may include students modeling the numbers with manipulatives to compare given numbers prior to placing them on the number line or after placing them on a number line.
- Instruction may include students' writing numbers in expanded form to compare givennumbers.
- Instruction may include students plotting numbers on number lines to compare numbers.

Common Misconceptions or Errors

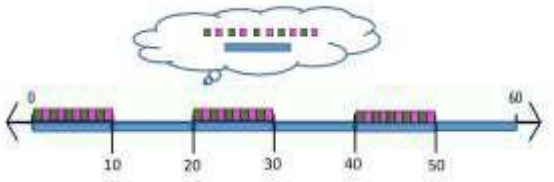
- Students may not recognize that a number's value is directly related to its placement on anumber line. In these cases, having students build a number using base ten manipulativesprior to plotting the number onto a number lines could be helpful.

Strategies to Support Tiered Instruction

- Teacher co-constructs a number line (string or painter's tape), labeling the ends of the number line (0-100). Students are asked to place 50 on the number line. Teacher discusses the placement of the number and then repeat the process with the numbers 25 and 75. Teacher asks students to identify numbers that are greater than… and less than….
    - Example:

	
Students plot 0, 50, and 100 on the number line	Students further plot 25 and 75, further partitioning the number line

- Teacher provides opportunities to use a number line and place value chart with base-ten blocks. Have students begin by placing the place value rods end to end along the number line (creating a number path). If students have difficulty with understanding that each rod represents a group of ten, use tiles or units to represent each whole number on the number line (number path). Teacher asks students to plot and represent a number on the number line and on the place value chart. Then, the teacher asks students to identify a number that is greater, also plotting this number on the number line and representing the number on the place value chart. Repeat with a number that is less than.
    - Example:



Questions to ask students:

- Ask: Which is greater, 35 or 42? How do you know?
    - Sample answer that indicates understanding: I know that 42 is greater because 4 tens is greater than 3 tens.
- *Ask: Which is less, 73 or 79? How do you know?*
    - Sample answer that indicates understanding: I know that 73 is less because the both have 7 tens, but 3 ones is less than 9 ones.
- *Ask: Would you rather have 59 dollars or 81 dollars? Why?*
    - Sample answer that indicates understanding: I would want 81 dollars because 59 has 5 tens and 81 has 8 tens. 8 tens is greater than 5 tens.

Instructional Tasks

Instructional Task 1

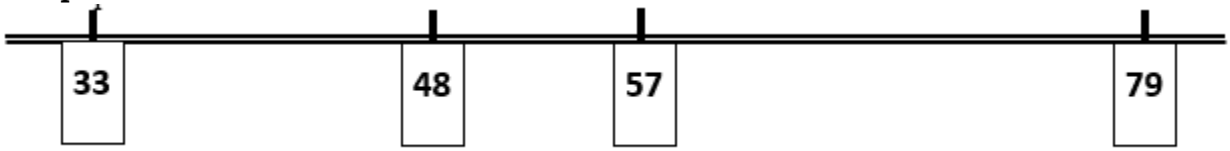
Class Plotting on an Open Number Line *(MTR.1.1, MTR.4.1)*

Materials: 4 Clothespins, 4 index cards, 4 feet of string or rope

Teacher: Hang a piece of string in the front of the classroom.

- Ask a student to think of a two digit number that has 3 tens in it. Write that number on an index card. Ask another student to place the number anywhere on the piece ofstring (open number line) using a clothespin.
- Ask a student to think of a two digit number that has 5 tens in it. Write that number on an index card. Ask another student to place the number on the piece of string (open number line) using a clothespin. Ask the class if it should be placed to the right or the left of the first number. Ask "Is this number more or less than our first number?"
- Ask a student to think of a two digit number that has 9 ones in it that would come after the 5 tens number. Write that number on an index card. Ask another student to place the number on the piece of string using a clothespin. Ask the class if it is greaterthan, less than, or equal to the first number on the number line. Ask the class if adjustments are needed to make room for the new number on the open number line (string). Make adjustments as needed.
- Ask a student to think of a number that would come between the first and second number. Write that number on an index card. Ask the class "Should this number be placed closer to the first number or second number? How do you know?" Ask the class if adjustments are needed to the number line more accurate now that they haveall the numbers placed. Make adjustments as needed.
- Ask students to independently come up with at least three different true statementsfrom the numbers on the class number line using >, < or = symbols. After giving students time to come up with statements, call on students and write their findingsand ask students to evaluate if they are in fact true statements. Remind students to come up with both greater than and less than statements.

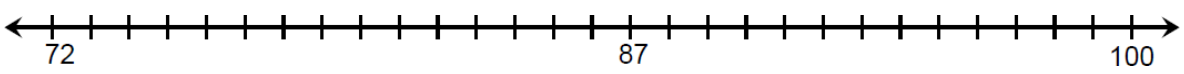
Sample Class Number Line:



Instructional Items

Instructional Item 1

Order the numbers 99, 79 and 89 from least to greatest. Plot the numbers on the number line.



Instructional Item 2

Using the numbers 99, 79 or 89, make three true statements.

_____> _____
_____< _____
_____> _____
_____= _____

Instructional Item 3

Write a true statement using the numbers 63 and 36.

Additional Resources:
CPALMS Resources

Video: Khan Academy – Comparing Numbers

Blog: Comparing Numbers with CRA Model

Resources/Tasks to Support Your Child at Home:

- Give your child two sets of objects from 1 to 100. Encourage them to group the objects by ten and count on by ones to determine total value. Then have your child determine which object there is a greater amount of. Then record the numbers with the symbols <, >, or =
- Online Video: Compare Numbers First Grade
- Take opportunities at the grocery store to compare the prices of items with students.
- Set out two paper plates. Have your child grab one handful of cereal for each plate (larger cereal such as fruit loops or cheerios work well). Have them count and compare.