

**Number Lines with Same Length but with Changing Numbers/Scales**  
**(0-10, then 0-20, and possibly 5-15)**

**Lesson Goal:**

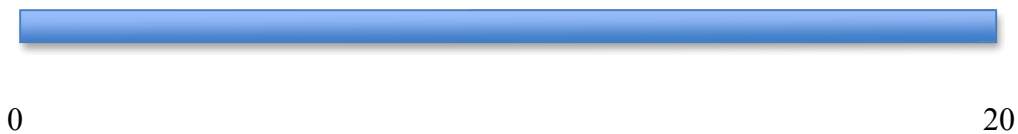
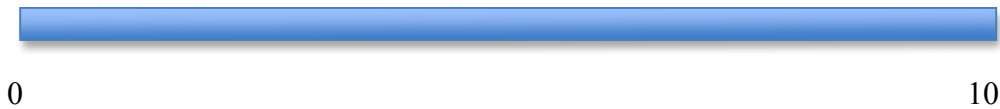
Expose students to number lines that stay the same length but intervals and numbers change. Understand that as more numbers are on the number line, the intervals get smaller.

**Concepts:**

- Equality
- Magnitude
- Sequencing
- Number knowledge

**Materials:**

- sentence strip number lines of the same length
  - clothes pegs with 0, 10, 20, 50, 100 and four pegs with 5 printed on them
- e.g.,



**Activation:** Whole Group

Show a line with 0 to 10: Where does 5 go on this number line?  
Next change the number line to 0 to 20: Now where does 5 go?  
What do you notice about the spacing?

**Lesson:** pairs

Next show number line 0 to 50: Now where does 5 go? Place 5 peg.  
Next show number line 0 to 100: Now where does 5 go? Place 5 peg.  
What do you notice? Discuss the intervals.

Variation: Change number line to -10 to +10: Now where does 5 go?

**Key Questions:**

- Where does 5 go on a number line when the number line length is fixed but the numbers change?
- Where is the middle?
- What do you notice that is different in these number lines?
- What do you notice about spacing?

