

CNL1 An Introduction to Using Number Lines

Use these notes to help you facilitate a conversation about the importance of using number tracks and number lines. Be sure to encourage questions and appropriate discussion during the session.

Audience

Teachers of students in Grades K to 5. The session is particularly useful with students who are learning to use the number track and the number line as a representation of relative positioning as well as for students struggling with the representation.

Duration

60 minutes

Materials

- 1–20 Number track from *ORIGO Honey Pot*
- 0–100 Number line from *ORIGO Honey Pot*
- Online access to *ORIGO MathEd™*

Introduction



Show the 1–20 number track and the 0–100 number line. Tell the participants that today's session will focus on the differences between the number track and the number line. Ask, *What are your experiences in using both representations with students? Elicit responses to set the context for the learning.*

Instruction



Start the video and pause at 4:20. Discuss the difference between the discrete number track model and the continuous number line model. Using the 0–100 number line, ask a participant to mark the number 74 on the number line. Ask, *How did you know where to locate the number? What are some ways to describe*

the number? Now ask another participant to locate the number 49 on the number line. Ask, What can you say about the difference between the two numbers?

Resume the video and pause at 6:48. The concept of relative position contains understanding of place value (base-ten) to determine the location of any number on a number line. Ask, How do you build understanding of place value with the students in your classroom? What are some of the advantages of using the number line model versus other place value materials? (For example, the number line model is the only model that can be used from early grades with relative positioning through the later grades when working with fractions and decimals.)



Resume the video and pause at 9:22. There are nuances between the number track and the number line. Knowing these differences, discuss with participants what instruction is necessary to allow students to use both representations. (For example, modeling the idea of the spaces on the number track as opposed to the distance from zero on the number line).

Discuss the concepts we can use with the number line: relative position, numbers between whole numbers, and place value. Have the participants draw a number line from 0–100 on a sheet of paper and compare these two numbers, 49 and 73. Ask, How does the number line help students to compare the difference?

Resume the video and pause at 12:30. Say, Number lines can build an understanding of number comparison. After seeing James and Cal model the thinking in the video, what will you want to include in your instruction?

Reflection



Resume the video and play to the end. The number line model is a versatile tool to use with students. Reiterate the progression from the number track to the number line. Ask, How does the number track model differ from the number line model? How do you use the number line with students? Where could you include the use of the number line in your instruction? Where do we see the number line in the real world?