

Illustrative Mathematics

2.MD Frog and Toad on the number line

Alignments to Content Standards

- [Alignment: 2.MD.B.6](#)

Tags

- *This task is not yet tagged.*

One day, Frog and Toad were sitting together on a lily pad. Some lily pads were in a line across the pond.



In the morning, Frog hopped three lily pads away. In the afternoon, he hopped two more away. In the evening, he hopped another two more.

Toad hopped four lily pads away in the morning. He rested in the afternoon and continued three further in the evening. Frog said,

Toad, we ended up at the same place!

Show each of their journeys on a number line, starting at 0. Use different colors for the morning, afternoon, and evening hops. Write a number sentence that reflects that they ended up at the same place.

Commentary

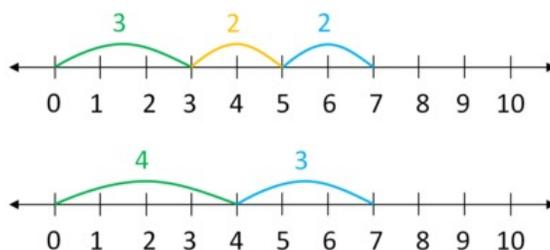
The purpose of this task is for students to use a number line to show why two different sums are equal and to represent that equality with an equation. This task could be used to introduce the idea of representing addition on the number line; the teacher could set up a number line on the board or floor so students can act out where the two amphibious friends end up.

Students who have only written equations of the form $A + B = C$ may not realize that we can write equations that show two sums are equal without actually writing the value of the sum. Students may also be unfamiliar with writing equations with more than two addends on a side. If this is the case, then the teacher might need to write the equation the first time they see a problem like this. For some students the teacher may also need to scaffold this concept by showing $3 + 2 + 2 = 7$ and $4 + 3 = 7$. Once students have seen that an equation like $3 + 2 + 2 = 4 + 3$ is an appropriate response, they are much more likely to produce such equations on their own.

Solutions

Solution: Sample solution

Frog's journey is shown on the top number line and Toad's journey is shown on the bottom number line:



The number sentence

$$3 + 2 + 2 = 4 + 3$$

shows that Frog and Toad ended up at the same place.

