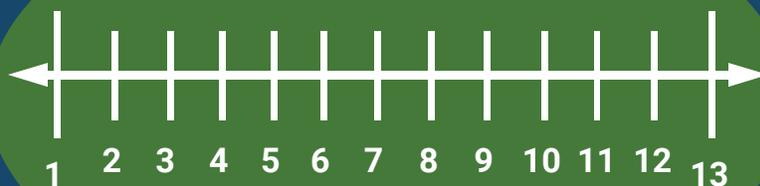


Addition Fact Strategies: Number Lines

This resource was created by Patricia Maxwell from Coventry Public Schools in Rhode Island to help with virtual mathematics instruction and intervention. The long-term goal is for students to fluently and automatically know addition facts. Manipulatives, including fingers, help students to be accurate, which is a precursor of fluency and automaticity. To meet this goal, students use manipulatives and learn strategies on how to put together numbers, which improves their “number sense.” One of these strategies is number lines.

Purpose

Number lines are visual representations that aide students’ number sense for conceptual understanding of the magnitude of numbers and add to students’ mental math for addition and subtraction. Number lines should be used both horizontally and vertically.



Modeling Addition Using a Number Line

1. Present an addition problem: $6 + 3$.
2. Use the number line to show the 6.
3. Explain that it is easier to begin adding with the greatest number, so, even if the problem was $3 + 6$, we would start with the 6 because then we have fewer numbers to jump.
4. Show the student how to jump 3 more from the 6. Jump to the right 3 on a horizontal number line and up 3 on a vertical number line.
5. Ask, “What did we start with?” “Yes, 6.”
6. Say, “Now we can jump 3 from 6.” Show the student how to jump the 3. A jump from 6 to 7 is 1 jump, 7 to 8 is 2 jumps, and so forth.
7. Ask, “Where did we end up?” “Yes, on 9. So $6 + 3 = 9$.”
8. It is important that students realize you are counting the “jumps” not the numbers.

Principles of Intervention Illustrated

- Provide concrete learning opportunities through the use of manipulatives.
- Provide explicit error correction, and have students repeat the correct process.
- Use precise, simple language to teach key concepts or procedures.
- Use explicit instruction and modeling with repetition to teach a concept or demonstrate steps in a process.
- Provide repeated opportunities to practice each step correctly.

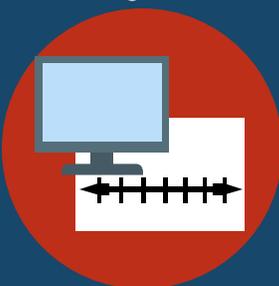
Materials

For online use:

<https://apps.mathlearningcenter.org/number-line/>

For in-person use:

<https://helpingwithmath.com/printables/number-lines/>



Demonstration

This [video](#) demonstrates how to use a number line.

Here are some examples of lessons using number lines that you can use with a student:

- [Adding 1 to any number](#)
- [Adding within 5 or 10 using a number line](#)



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This activity was developed by Patricia Maxwell, K-5 Math Interventionist at Coventry Public Schools, during the spring of 2020 as part of an NCII community of practice focused on virtual intervention delivery. Please note that NCII does not endorse specific intervention programs. As such, any programs noted in these documents are used for illustrative purposes only, or as potential resources for source materials (e.g., sample text, graphic organizers).

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