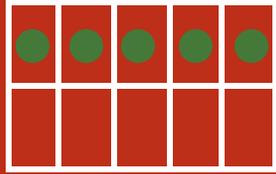


Addition Fact Strategies: Ten Frames

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 ten frames.

Purpose

Ten frames are used to add and subtract with a visual manipulative.



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.

Modeling Addition Using a Ten Frame

1. Present addition problem $5 + 3$.
2. Use a ten frame to show the 5 first.
3. Explain that it is easier to begin adding with the greater number.
4. Explain that if we fill the top row of the ten frame, then we have 5. Just like we have 5 fingers on our hand, the top row of the ten frame has 5. We do not need to count out the 5, but we know it's 5 when the top row of the ten frame is filled.
5. Explain that, to solve the problem, we start at 5 and count on.
6. Ask, “What are we starting with?” “Yes, 5.”
7. Say, “Now we can count on from 5 ... 6, 7, 8.”
8. “Yes, $5 + 3 = 8$.”

Materials



For online use:

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

For in-person manipulatives, print a ten frame and use blocks, toy pieces, cereal, for example:

<http://mathwire.com/templates/tenframemat.pdf>

Demonstration

This [video](#) demonstrates how to use The Math Learning Center’s virtual Number Frames.

Here are some examples of lessons using ten frames that you can use with a student:

- [Adding 0 to any number](#)
- [Adding within 5 and 10 using a ten frame](#)





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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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