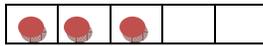
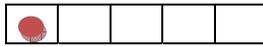
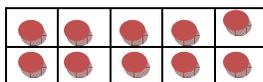
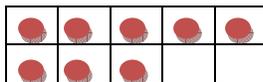
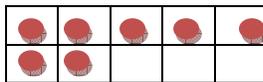
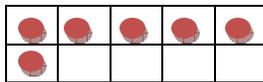
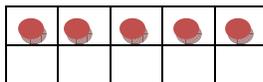
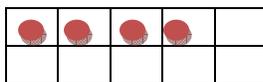
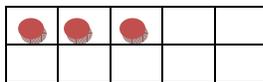
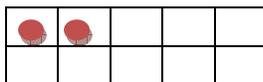
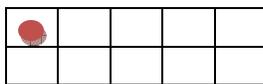


## Five and Ten Frames



**Five Frames**



**Ten Frames**

### What are Five and Ten Frames?

Five and ten frames are equal-sized rectangular boxes in a row where each box is large enough to hold a counter. The five frame is arranged in a 1-by-5 array. A ten frame is a set of two five frames or a 2-by-5 array.

### How do Five and Ten Frames help students?

Five and ten frames help students to relate given numbers to 5 and 10 by providing a visual image. The frames may be filled in from left to right so that students can learn to *subitize*. Their use encourages counting strategies beyond counting by one or counting on each time they are asked to identify a number or work on an addition or subtraction problem. Students think about combinations of number that make other numbers, e.g., 7 is two more than 5, or 9 is one less than 10. These number relationships help build the foundation for the development of more complex mental computations. Students start with the five frames before moving on to ten frames and may explore double ten frames later to develop a better understanding of place value.

### How many are recommended?

It is recommended that every child have a five frame to begin and, when developmentally ready, they should also have a ten frame. Blackline masters of frames can be mounted on cardboard. Students also need counters (at least 10 per child) to place in and beside the frames for counting. Non-permanent markers can be used with laminated frames. It is possible to use stickers in the frames or have the students colour the frames, although these options make for a one-time use of the frames.

### Sample Activities

1. Ask students to only put one counter in each space on a five frame to show 3. Ask them to explain ways they have displayed 3. Continue for 0-5. Once the students have displayed a number, ask “How many more counters are needed to make 5?” to continually reference 5. As a next step, call out numbers greater than 5 and have students place those additional counters outside the frame so they see that 7 is two more than 5.
2. Once students have had experience with five frames, repeat the above activity with the ten frame cards. **Note:** When using the ten frames, ask students to fill the top row up first, before moving on to the second row, as this will provide a “standard” way to show numbers and reinforce the concept of 5s and 10s as anchors.
3. Using two-sided counters, find all the ways to make 5 (or 10).

## Five and Ten Frames

4. When students have had experience with five or ten frames, play a game by quickly flashing a filled frame and ask how many dots there were. Encourage students to share strategies of how they could tell without counting.
5. Have five (or ten) frames pre-coloured and ask students to match them to pre-made expressions, such as  $5 + 3$ ,  $2 + 2 + 2$ , etc.
6. Call out numbers as a shared class experience and students build that number on their frames. Note if students clear their frame each time. If this happens, encourage a volunteer to call out what they do to the previous number to make the new number, e.g., The first number called out is 8. If the second number called out is 12, students call out “add 4.” If the third number called is 6, students call out “subtract 6.”
7. Hold up a frame with some frames already marked and say “I wish I had 5 (or 10).” Students figure out how many more counters are needed to make that number.
8. One student arranges counters on the ten frame and hides it from a partner. The partner can ask Yes or No questions to figure out the hidden number, e.g., Is the top row full? or Are there more than 3 spaces empty?
9. Once students have had experience with the frames, they could try visualizing the counters. Ask students to imagine 6 counters in a ten frame and adding 7 more counters. Ask: What do the frames look like now?
10. Use the frames to prove which number is greater 6 or 9.
11. Wayne has 3 more toy trucks than Craig. Craig has 4 trucks. How many does Wayne have?
12. Mary had 16 silly bands but she gave 7 away to her friends. How many are left?

Adapted from *Teaching Student-Centered Mathematics: Volume One, Grades, K-3*. John Van de Walle, Boston: Pearson, 2006. ISBN 205-40843-6

### Recommended Websites

<http://illuminations.nctm.org/activitydetail.aspx?id=74> – five frames interactive website

<http://illuminations.nctm.org/activitydetail.aspx?ID=75> – ten frames interactive website

<http://sites.google.com/site/angelatuell/usintengframestosupportmathlearning> – using five and ten frames

<http://rich.maths.org/2479> – explanation and activities for ten frames