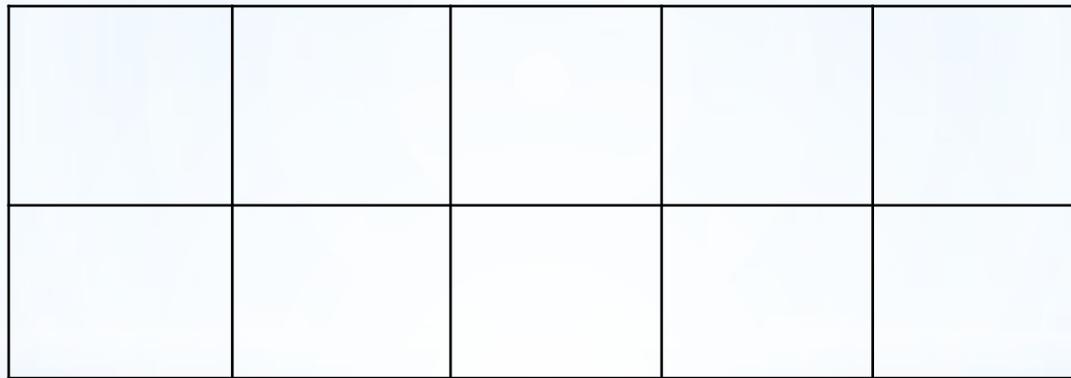


* Ten Frames

Mrs. D. Brown

First Grade

*What is a ten frame?



A **ten frame** is a simple five by two grid, used as a **tool to help a child create a visual image of a number** in his or her mind. Initially, a child will use a ten frame (or five frame) in combination with small counting objects (I recommend circle shaped counters of two different colors), eventually the child will use ten frames on which the counters are represented by pictures helping him or her transition away from moving the counters physically and encouraging them to do this process mentally.

After a lot of practice with this representation, a child will be more ready to do problems “**in their head**” and speedily answer questions of not only basic math facts, but also more complex ones.

*What are ten frames used for?

*Ten frames are used to develop your child's subitizing skills. **Subitizing** is the ability to "instantly see how many". This skill plays a fundamental role in the **development** of your child's **understanding of numbers**- "number sense"

***Subitizing-instantly
seeing how many**

Math Fact Fluency

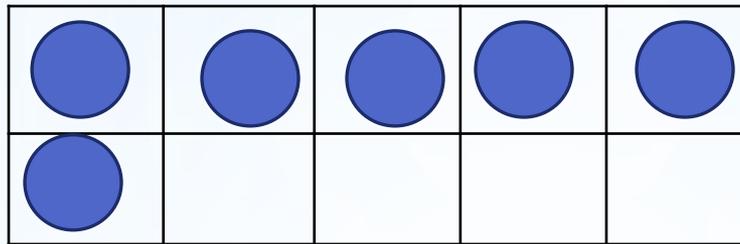
In order for children to become **quick** and **accurate** at **manipulating numbers**, they must be able to call up a **visual image of the number**. For many children who have trouble memorizing basic facts or have trouble **applying their basic fact knowledge** once they are memorized, the problem is that they do not have this **visual image**.

One way to support a child's development of **visual number images** and **understanding of our base ten number system** is by use of a **ten frame**.

How do I use a ten frame?

- *Start by filling the ten frame with one counter in each square, left to right, just like they would read from left to right.
- *Practice filling it and having them fill it with various numbers of counters 1-10.
- *After your child has had a bit of practice with this reinforce the idea of knowing how many are in the frame without counting them one by one.
- *Ask your child to cover their eyes, you fill the frame and then they can uncover their eyes and try to tell you at once how many there are.
- *Then practice changing the number quickly, for example, if there are ten counters in the frame, challenge them to see how quickly they can change it to nine and then to one. Keep each practice play brief.
- *When your child automatically knows how many counters are represented in the ten frame each time without counting and can easily and quickly manipulate those numbers, move on to double ten frames (representing numbers to 20).

- * One way to help students subitize is by using the ten frame to show numbers. How many do you see?



- * Flash a ten frame with some circles dot and have your child write the number on paper or say how many. You can extend that by also asking how many more to make _____?

* How can I use ten frames at home?

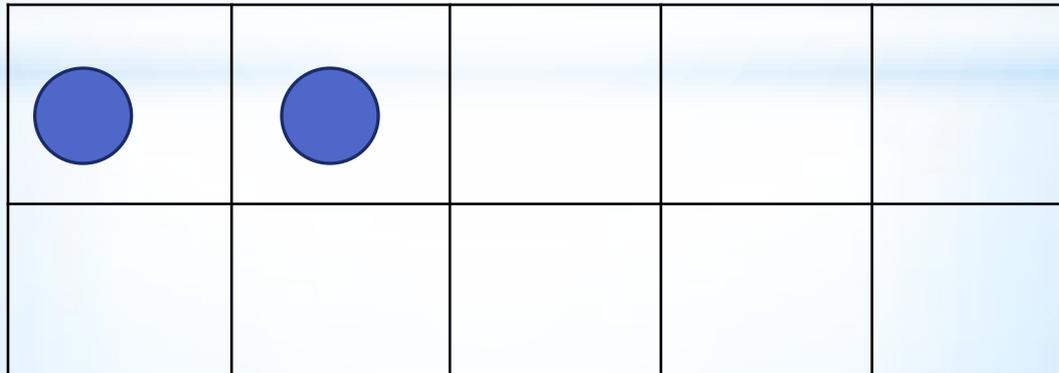
Strategies for using ten frames-games

Wish I Had 10

Show a number card from 1-9 or ten frame showing 9 or less dots and say, “I wish I had 10”. Students respond with the part that is needed to make ten. The game can change focus on a different “wish I had” number each time.

Show the number 2 or 2 objects on the ten frame? I wish I had ten. Student counts to see how many more is needed to fill the ten frame. 8 more.

You may start with the 2 in the ten frame or show the number and have your child place them in the ten frame and then add more (preferably a different color, to show how many more is needed to make ten.



Flash: One More

Once students are familiar with the basic patterns, and know them automatically, flash a 10 frame card and ask them to name the number that is one more than the number flashed.

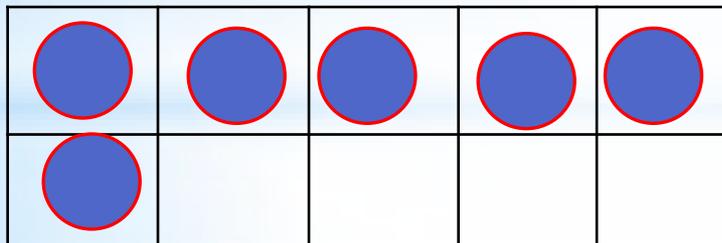
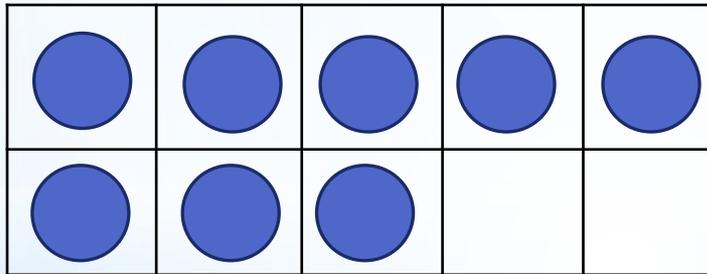
Variation: ask students to give the number that is two more/one less/double/ten more than the number flashed

They can represent this on a ten frame/frames.

* Ask your child's teacher about getting some ten frames.

When your child becomes **proficient** at making and manipulating numbers in a double ten frame, practice some addition problems using the double ten frame.

e.g. "You have eight blue counters and I will give you six red. Now how many do you have?" $8+6=14$ after student counts top and adds on the other 6 to make 14.



1 more/1 less/10 more/10 less

You may use two ten frames alongside each other to play this game.

one more

one less

ten more

ten less

flash a ten frame card as the 'starting number'. Allow your child to choose one prompt. For example, if you flash a card showing '5' your child might say, "one more than 5 is 6", another response might be, "ten more than 6 is 16", and the third response might be, "one less than 16 is 15". Continue until your child has done all the prompts.

Flash

*** You will need number cards to 20**

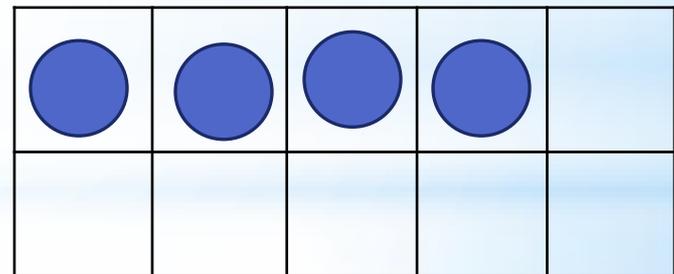
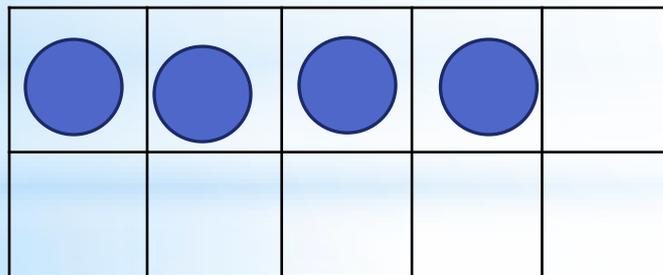
Quickly flash a number and allow your child to draw the pattern he/she saw, or have your child build the number flashed on their own blank frame or frames.

Encourage your child to share the different strategies used to decide how he/she represented it on the ten frame/s.

e.g. 10 can be represented by 5 and 5 using two ten frames (we call that a double)

or 8 can be represented two ways-

1. As doubles 4 and 4 using two ten frames
2. 5 and 3 using two different colors.

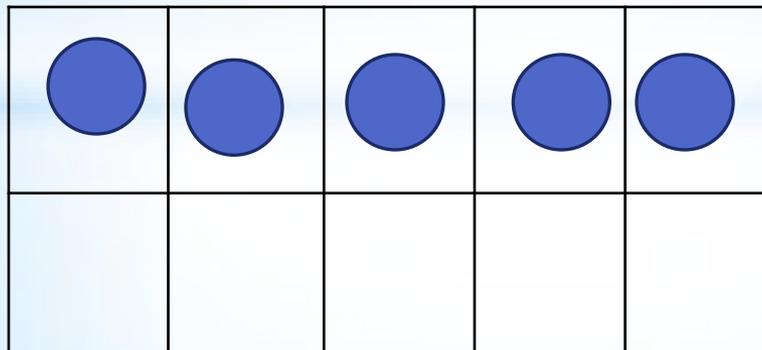
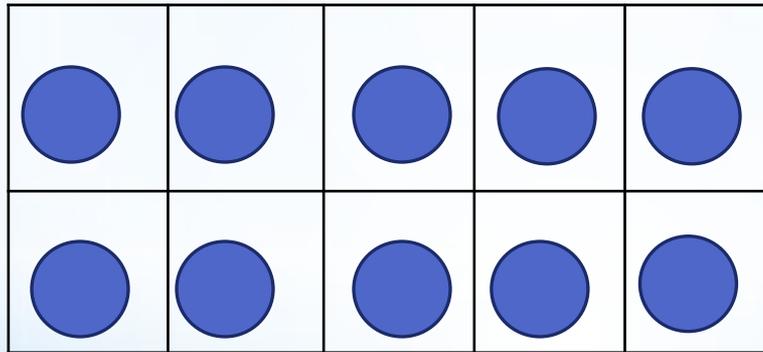


Teen Frame Flash (11-20)

Once students are subitizing ten frame patterns 0- 10, cards showing larger numbers (i.e. more than one ten frame) should be introduced. Key words you can use -How many?; How many more than 10?

*15 is 5 more than 10

How do you know? Count ten, then 5 more. It shows a visual representation .



How does this transfer to other grades?

By learning to identify numbers and add and subtract in this way, your child is not simply memorizing facts, they are internalizing them in such a way as to be able to be flexible with them and build on this knowledge when learning higher-level math.