

Number Sense Routines  
(Taken from [Number Sense Routines](#) by: Jessica F. Shumway)

[Valuable blog discussing favorite strategies.](#)

Name of Routine	Helps with....	How It Works	Questioning Strategies
1. Quick Images Using Dot cards, Pictures, Dominoes, and/or Dice	<ul style="list-style-type: none"> <li>• Subitizing</li> <li>• Visualizing amounts</li> <li>• Using groups and</li> <li>• Combining groups to figure out “how many”</li> </ul>	<p>These are cards with dots on them arranged in various groups. You flash the amount quickly, giving students about 3-5 seconds to visualize the amount. Then you ask students what they saw. This will encourage them to think in groups rather than count by ones.</p>	<ul style="list-style-type: none"> <li>• How many did you see?</li> <li>• How did you know it so quickly?</li> <li>• Did you need to count?</li> <li>• So what did you do?</li> <li>• What did you see?</li> <li>• Why are you able to know the amount so quickly?</li> <li>• 3 dots: Did you count each dot or did you just see the amount?</li> <li>• 5 dots: Did you count? Did you see an amount? (some students might see the 5 as a whole; others may see 3 and 2 or 4 and 1)</li> </ul>
2. Ten-Frames	<ul style="list-style-type: none"> <li>• Grouping</li> <li>• Using the ten-structure and five-structure</li> <li>• Composing and decomposing ten</li> <li>• Teen numbers</li> <li>• Part-part-whole ideas</li> </ul>	<p>You can use the ten-frame much like Quick Images. The difference in using the ten-frame is that the five- and ten-structures are highlighted by the configuration of the frame. Also good for teen numbers.</p>	<ul style="list-style-type: none"> <li>• How did you figure out how many?</li> <li>• Fourteen is composed of a full ten-frame plus a ten-frame with 4 dots.</li> <li>• A ten-frame with 9 dots plus a ten-frame with 4 dots: Children will often move 1 dot from the 4 to the ten-frame with 0 to make 10, then do <math>10+3</math>.</li> </ul>
3. Rekenrek	<ul style="list-style-type: none"> <li>• Grouping</li> <li>• Using the ten-structure and five-structure</li> <li>• Composing and decomposing 20</li> <li>• Teen numbers</li> <li>• Part-Part-whole ideas</li> </ul>	<p>The rekenrek is a Dutch arithmetic rack. It has two rows with 10 beads on each. Each row of 10 beads is made up of 5 red and 5 white beads. There is a white panel attached to the end of the frame that allows you to hide some beads and show other beads. You can use the rekenrek in a Quick Images manner to encourage the use of groupings. And, like the ten-frame, the rekenrek highlights the five- and ten-structures.</p>	<ul style="list-style-type: none"> <li>• Can you show a way to make fifteen? Can you show another way to make fifteen?</li> <li>• How many do we need to add to make seventeen?</li> <li>• How many do we need to take away to make twelve?</li> <li>• What can we do to make eight?</li> <li>• How many are hiding behind the white panel?</li> <li>• Can you for sums of 10 as well and only use the top rod?</li> <li>• You may call the rekenrek a double decker bus and the top rod is the top of the bus, and the bottom rod is the bottom of the bus. How many people are sitting on top? How many people are sitting on bottom? How many is all?</li> </ul>

Name of Routine	Helps with....	How It Works	Questioning Strategies
4. Start and Stop Counting	<ul style="list-style-type: none"> <li>• Counting sequences</li> <li>• Understanding patterns in numbers</li> <li>• Difference or distance between two numbers</li> </ul>	The class counts a number sequence all together, with a starting number and a stopping number. For example, have the class count by tens, starting with 26 and stopping at 176.	<ul style="list-style-type: none"> <li>• If we start with 20 and count by tens, what numbers could we stop at?</li> </ul>
5. Ten Wand	<ul style="list-style-type: none"> <li>• Combinations of ten</li> <li>• Commutative property</li> <li>• Part-part-whole ideas</li> <li>• Ten-structure and five-structure</li> </ul>	The Ten Wand is made up of ten Unifix cubes, five of one color and five of a different color. The wand breaks in two pieces at various places (decomposing the ten) to help students see combinations visually.	<ul style="list-style-type: none"> <li>• How many on the floor and how many in my hand?</li> <li>• How did you see seven so quickly?</li> <li>• How did you know that's seven without counting it?</li> <li>• What is it about the wand that made it easy to see the amount?</li> <li>• If we put the parts back together, how many cubes make up the wand now? Why is it still ten?</li> <li>• So if there are two on the floor, how many more are needed to complete the broken wand?</li> </ul>
6. Ways to Make a Number	<ul style="list-style-type: none"> <li>• Thinking flexibly about numbers</li> <li>• Composing and decomposing numbers</li> <li>• Place-value understanding</li> <li>• Base ten and grouping ideas</li> <li>• Relationships among ones and tens</li> </ul>	Students write as many ways as they can think of to "make" a selected number. They might use visuals of the quantity, equations, models, and so on.	<ul style="list-style-type: none"> <li>• What is it about ten that gave you the idea to write it that way?</li> <li>• Why does that work?</li> <li>• How do you know it works?</li> </ul>
7. Today's Number	<ul style="list-style-type: none"> <li>• Understanding numbers embedded in various contexts</li> <li>• Numbers' relationships to 10 and 100</li> <li>• Grouping ideas (base ten, tens bundled as a hundred)</li> </ul>	The teacher chooses a number, such as ten, to be Today's Number and asks various questions about the number, such as: When is ten big? When is ten small?	<ul style="list-style-type: none"> <li>• When is ten a large amount?</li> <li>• Why did you think of that as an example of then ten is a large amount?</li> <li>• When is ten not very much?</li> <li>• Why does ten mean different things in different contexts?</li> <li>• Make ten using three addends.</li> <li>• Make ___ by subtracting two numbers.</li> <li>• Divide ___ in half.</li> <li>• Double ____.</li> <li>• Divide ___ into four equal parts. What other ways do you think about ____?</li> <li>• What is ____'s relationship to ten? Is it more than ten or less? By how much?</li> </ul>

