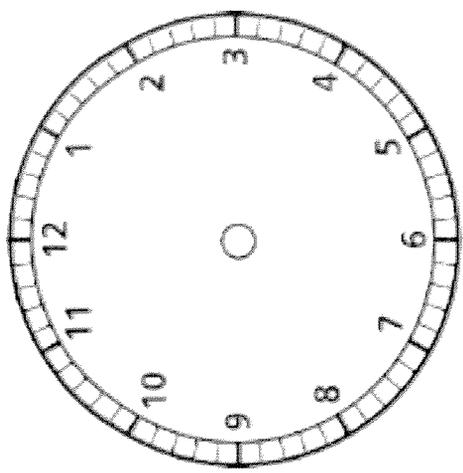


Dictation


Time

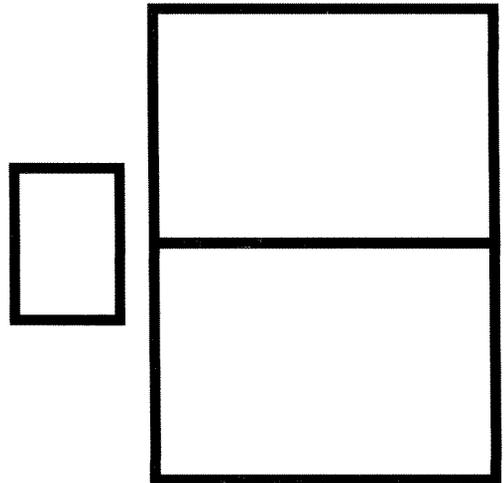


\_\_\_\_\_ o'clock

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Part-Part-Whole



+ =

Counting Patterns

By \_\_\_\_\_

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By \_\_\_\_\_

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By \_\_\_\_\_

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Comparing Numbers

Put in order from \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 less (before)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1 more (after)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Tally Marks

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>, <, =



## True/False Number Sentences

Students are presented with an equation. They have the opportunity to think about the equation, to determine whether it is a true equation or a false equation. When this routine is introduced, consider using a number balance as a visual tool for representing addition equations.

Number Sentences can and should be devised to highlight and emphasize particular mathematical ideas. For instances, if your class is working on developing fluency with ten facts, equations can be presented such as:  $10 = 7 + 2$ ;  $6 + 4 = 10$ ; and  $9 + 1 = 5 + 5$

Note that not all of the number sentences are true.

$$6 + 0 = 6 + 0$$

$$12 - 9 = 3$$

$$5 + 3 = 6 + 2$$

$$28 - 9 = 19$$

$$56 + 39 = 57 + 38$$

$$34 - 19 = 15$$

$$164 + 58 = 165 + 59$$

$$37 + 56 = 39 + 54$$

$$27 + 48 - 48 = 27$$

$$345 + 568 - 568 = 353$$

$$56 = 50 + 6$$

$$48 + 63 - 62 = 49$$

$$7 + 80 = 87$$

$$93 = 9 + 30$$

$$6 \cdot 7 = 5 \cdot 7 + 7$$

$$80 + 14 = 94$$

$$8 \cdot 6 = 8 \cdot 5 + 6$$

$$10 \cdot 7 - 7 = 9 \cdot 7$$

## Open Number Sentences

Decide which number will make each number sentence true.

When solving the problems above, make sure to look at the whole problem before solving. Ask yourself, 'What do I already know and what can I use to help me solve it?'

$$6 + 3 = \underline{\quad} + 4$$

$$12 - 9 = \underline{\quad}$$

$$56 + \underline{\quad} = 57 + 38$$

$$34 - 19 = \underline{\quad}$$

$$35 + 47 = 36 + \underline{\quad}$$

$$1000 - 399 = \underline{\quad}$$

$$39 + 82 = 29 + \underline{\quad}$$

$$1000 - 495 = \underline{\quad}$$

$$56 = 50 + \underline{\quad}$$

$$27 + 48 - 48 = \underline{\quad}$$

$$\underline{\quad} = 7 + 80$$

$$\underline{\quad} + 568 - 568 = 353$$

$$93 = \underline{\quad} + 30$$

$$48 + 63 - 62 = \underline{\quad}$$

$$94 = 80 + \underline{\quad}$$

$$17 - 9 + 8 = \underline{\quad}$$

$$3 \cdot 7 = 7 + \underline{\quad} + 7$$

$$\underline{\quad} \cdot 7 = 5 \cdot 7 + 7$$

$$3 \cdot 7 = 14 + \underline{\quad}$$

$$8 \cdot \underline{\quad} = 8 \cdot 5 + 6$$

$$4 \cdot 6 = \underline{\quad} + 12$$

$$9 \cdot 7 = 10 \cdot 7 - \underline{\quad}$$

$$3 \cdot 8 = \underline{\quad} \cdot 8 + 8$$

## Ten Wand

The Ten Wand is both a visual way for students to understand the number ten, learn ways to compose and decompose ten, and learn about properties of numbers. Fluency with combinations of ten helps students use efficient strategies in computation later on. The routine is from the book Number Sense Routines by Jessica Shumway.

<b>Helps with...</b>	<b>How it Works</b>	<b>Ways to Use the Routine and Questioning Strategies</b>
<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>	<p>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.</p>	<p>Use questioning strategies like these when working with the Ten Wand:</p> <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? 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></ul>
		<ul style="list-style-type: none"><li>• So if there are two on the floor, how many more are needed to complete the broken wand?</li></ul>

## Number of the Day/ Target Number

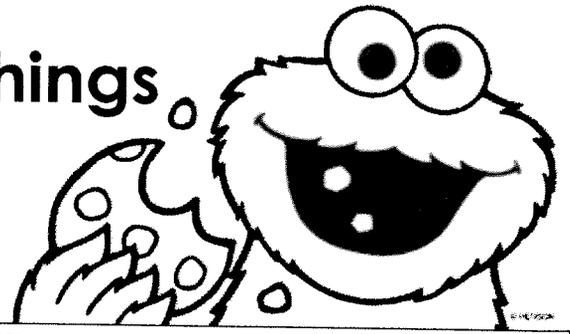
This is a combination/variation from many different number routines. After the teacher announces “the target number”, or how many days we have been in school, the students record as many different representations of the number on a white board, journal, or paper. Then, after a few minutes of think and record time, students are asked to share with their neighbor. Then responses are recorded on a class chart. Target number provides students with opportunities to work with quantities, compose/decompose numbers, find relationships between numbers, and find connections within mathematics.

Similar routines are describe in the book Number Sense Routines by Jessica Shumway:

Name of the Routine	Helps with...	How It Works	Ways to Use the Routine and Questioning Strategies
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, tens, and hundreds</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.	<p>This routine can be open-ended (just give students the number and no guidelines) or it can have constraints (such as, Think of ways to make this number with three addends). Use questions like these with this routine:</p> <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>
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 (repeated groups, base ten, tens bundled as a hundred)</li> </ul>	The teacher chooses a number, such as ten, to be Today’s Number (there are a variety of reasons for picking a particular number) and asks various questions about the number, such as: <ul style="list-style-type: none"> <li>When is ten big?</li> <li>When is ten small?</li> </ul>	<p>In order to help students understand numbers in various contexts, ask questions like these:</p> <ul style="list-style-type: none"> <li>When is ten a large number?</li> <li>Why did you think of that as an example of when 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>What other ways do you think about ___?</li> <li>If today’s number is ___, how much is one group of ___?</li> <li>How much is ten groups of ___?</li> </ul>

# One of These Things

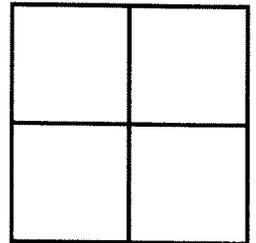
One of these things is not like the others,  
One of these things just doesn't belong,  
Can you tell which thing is not like the others  
By the time I finish my song?



<b>TIME:</b> Around 10 minutes total (Perfect activity for a number talk or warm up)	<b>OBJECTIVE:</b> <b>Content:</b> SWBAT identify the number/object/word that is different from the rest. <b>Language:</b> SWBAT orally explain how the number/object/word is different; write a sentence explaining how it differs from the rest; listen to and restate in his/her own words his/her buddy's choice and reasoning to the class.
<b>TOPIC:</b> The possibilities are endless... (Numbers, shapes, object size/color/use, synonyms, etc.)	
<b>MATERIALS:</b> *2-by-2 grid    *chart paper    *markers	

## ACTIVITY:

1. Explain to students that they will be shown a group of numbers/words/items and that they need to decide which one is different from the rest in some way. Let students know once the grid is up, there will be one minute of silence for everyone to find their "one thing" and come up with their reasoning.



**\*\*TIP: As you see students finishing up their thinking process before the minute is up, challenge them to find another number/word/item that could be the one that does not belong and think about why.\*\***

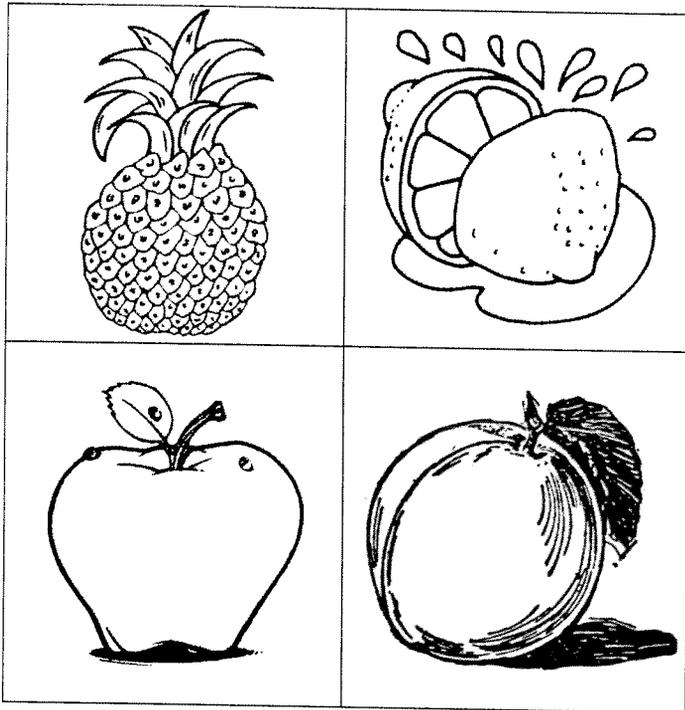
2. Display the grid and give the students a minute of silence to look over the items and really think about the relationships between them. When a minute is up, give partners/tables a minute or two to discuss their "one thing" and the reasoning behind choosing that one item.
3. Pull the class back together and have individuals share out their "one thing" and reasoning. Record the number/word/item on a blank chart paper, as well as the reasoning.  
**\*\*TIP: Be sure to ask questions like: "Can someone else explain \_\_\_\_'s reason in another way?" "Can you explain your thinking to me?" - don't accept almost-right answers, "I like what you've said so far. Can someone add to that?"\*\***
4. Ask students what relationships they see between the reasoning given by the class, i.e. the rest of the numbers have a 0 in the one's place and the rest of the digits are even.

## INSTRUCTIONAL IMPLICATIONS:

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### One of These Things



### One of These Things

$\frac{7}{8}$	$\frac{4}{5}$
$\frac{4}{12}$	$\frac{9}{11}$

### One of These Things

350	3500
125	300

### One of These Things

$\frac{5}{10}$	$\frac{3}{6}$
$\frac{1}{2}$	$\frac{2}{8}$

## Choral Counting Activities

There are various ways to structure choral counting activities. All of the routines described below involve whole-class participation. Ideas for choral counting include counting by ones, tens, fives, twos starting at zero and then starting at other numbers, counting by tens starting from 53 or 320, counting backwards by ones or tens.

Choral counting was described during the CGI beginners training. Jessica Shumway describes all three routines in more detail in the book, Number Sense Routines.

Name of the Routine	Helps with...	How It Works	Ways to Use the Routine and Questioning Strategies
Choral Counting	<ul style="list-style-type: none"> <li>• Counting sequences</li> <li>• Understanding patterns in numbers</li> </ul>	In this routine, the class counts aloud a number sequence all together.	Record the numbers as students are counting to help students see and use the patterns. Prior to doing the activity, think about how many numbers you want to record in a row to help facilitate students noticing particular patterns. <ul style="list-style-type: none"> <li>• What do you notice?</li> </ul>
Count Around the Circle	<ul style="list-style-type: none"> <li>• Counting sequences</li> <li>• Using patterns for problem solving</li> <li>• Estimation</li> <li>• Understanding place value</li> <li>• Understanding how the number system works</li> </ul>	Choose a counting sequence – for example, count by tens starting at thirty-two – and go around the circle as each person says a number. (For example, the first person says, “Thirty-two,” the second person says, “Forty-two,” the next person says, “Fifty-two,” and so on.	Variations on this routine include the following: <ul style="list-style-type: none"> <li>• Count by ones, tens, fives, twos, threes, and so on, starting at zero.</li> <li>• Count by ones, tens, fives, twos, threes, and so on, starting at various numbers.</li> <li>• Count by fractional numbers.</li> <li>• Count by hundreds or thousands or millions, starting at zero or at various numbers.</li> </ul> To facilitate understanding of the patterns, write the numbers on the board as students say them.  Ask a variety of questions to differentiate the level of difficulty, such as: <ul style="list-style-type: none"> <li>• How did you know what comes next?</li> <li>• I noticed that you paused when it was your turn and then you figured it out. What did you do to</li> </ul>

<p>Start and Stop Counting</p>	<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>	<p>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. In addition to whole class, this routine works particularly well with small groups and individual students.</p>	<p>figure it out?</p> <ul style="list-style-type: none"> <li>If we count by ones starting with Kelly and go all the way around the circle, what number do you think Amir will say? Why?</li> <li>If we count around the circle by tens and we go around three times, what will Lucy say? How do you know that without counting it?</li> </ul>
			<p>Ask questions to facilitate discussion about patterns, such as odd/even patterns:</p> <ul style="list-style-type: none"> <li>If we start with twenty-five and count by fives, what numbers could we stop at?</li> <li>If we count by twos and start with 1,222, what numbers could we stop at? Why would the number need to be even?</li> </ul> <p>To highlight the distance between numbers and guide a discussion about difference, use the following questions:</p> <ul style="list-style-type: none"> <li>If we count by twos, starting with 1,222 and stopping at 1,234, will it take a long time or not much time? How do you know?</li> <li>If we count by twos, starting with 1,222 and stopping at 4,222, will it take a long time or not much time? How do you know?</li> </ul>

