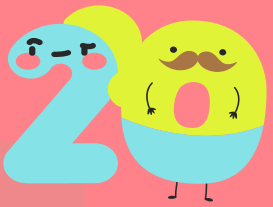


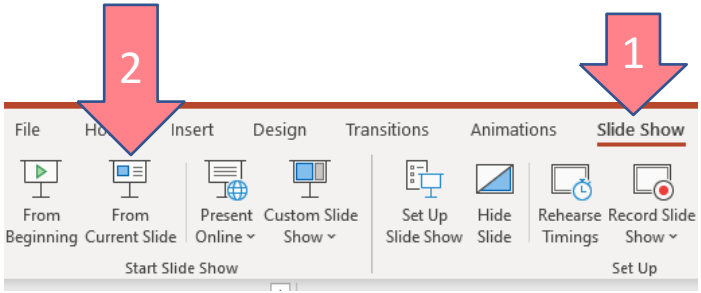
# Kindergarten NUMBER SENSE Routines

## Days 81-100

## HOW TO RUN POWERPOINT IN SLIDE SHOW MODE:

Slides with animation features, must run in Slide Show mode of PowerPoint for the animations to work correctly.

1. Select <Slide Show> from the menu at the top
2. Select <From Current Slide>




## HOW TO ANNOTATE STUDENT THINKING ON THE SLIDE:

- With the slide in Slide Show mode, right click on the slide
- Select <Pointer Options> then choose <Pen>

# How to facilitate More or Less

For this routine, students will determine which of the images shows "more" or "less" or if the two images show "equal" values.

To facilitate this routine,

1. Show the two images.
2. Ask the question shown on the slide.
3. Allow students to discuss their ideas with a partner first (this gives them time to gather their ideas and allows all students an opportunity to talk).
4. Ask a few students to share their ideas with the whole group.

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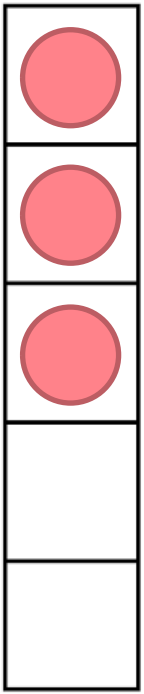
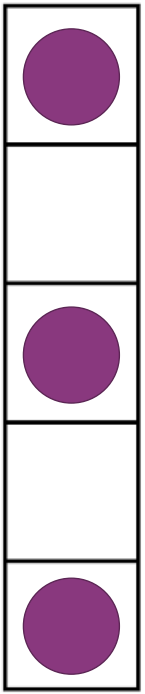
Day 81

ASK: Which 5-Frame has fewer counters? How do you know?





Calvert County Public Schools

# More or Less

K.CC.C.6

# How to facilitate Number Strings

This routine includes a set of related math problems designed to teach strategies based on number relationships. To facilitate this routine,

1. Show the visual prompt. Ask the prompt question. Ask students to use the discreet signal system that has been established as a classroom Number Sense Routine norm – i.e., a thumbs up in front of their chests when they have an answer in mind.

2. When most students have signaled that they are ready, call on students to share their strategies. Decide if you are going to model the strategy shared. The goal is to find efficient ways to solve the problem accurately.

3. Advance the slide to progressively include additional problems within the number string.

4. If a number string's purpose is a certain strategy to be developed and that strategy is not emerging from students, then you may need to ask questions that encourage students to consider the strategy that is intended to be developed.

5. Throughout the routine, encourage students to actively listen to each other's ideas, ask their classmates clarifying questions, and connect their own strategies to the other strategies that have been offered. Be patient and persistent – these skills will take time to develop.

Light the Future
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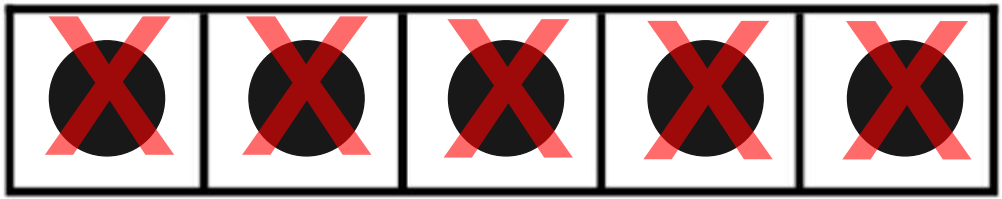
Day 82

FOCUS STRATEGY: Counting Back
There are five images with today's routine. Advance the slide to see each one.
Allow students to share strategies before advancing to the next slide within this routine.
Write the number expression as appropriate (i.e., 2 – 1) .



I have 3. I wish I had 1.
How many do I need to remove?

# Number Strings

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# How to facilitate Clue by Clue

During this routine, students are shown a group of objects. Then they are given clues about the object's attributes that helps them to narrow the possibilities down to just one possible object from the group.

To facilitate this routine,

1. Show the group of objects to your students.

2. Tell students that you are thinking of ONE of these objects and you will give them clues to help them discover which object you are secretly thinking about.

3. Reveal the first clue. Ask students to think about which objects could be your mystery object. Which objects cannot be the mystery object. Discuss.

4. Use the annotation tool to visually mark off objects that do not fit the clue. In Slide Show mode, right click to annotate on the slide. Select >Pointer Options>Pen. Cross off images as students determine it does not fit the clue. The answer is revealed after Clue 3 is shown.

Calvert County Public Schools

Clue by Clue

Day 83

ASK: Can you use the clues to guess which number set I am describing?
FACILITATION NOTE: Use the annotation tool to mark off numbers that do not fit the clue.


**Clue 1**
**I am more than 5**

**Clue 2**
**I am less than 8**

**Clue 3**
**I am before 7 on the number path**

Calvert County Public Schools

*Clue by Clue*

K.CC.C.7

# How to facilitate Same But Different

At the start of this routine, students are shown two images. They are asked to identify not only the attributes that are the SAME between the two objects, but also the attributes that are different. This routine helps build students' grayscale thinking where things do not have to be all one or the other, they can be both at the same time.

To facilitate this routine,

1. Ask your students to think about what is the same about the two objects AND what is different. If scaffolding is needed, you can ask them to first think about how the objects are the same. Discuss. Then ask how the objects are different. Discuss.

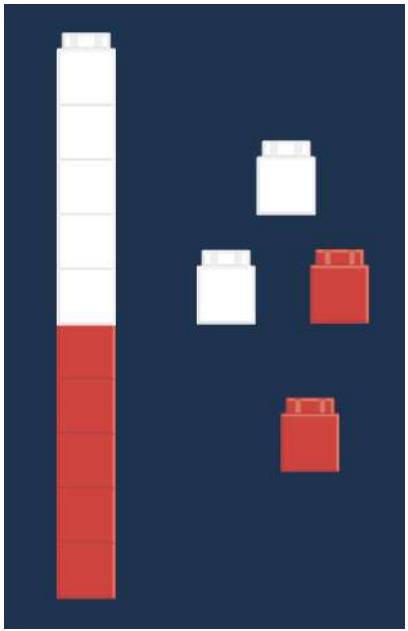
2. Ideally, students will state how they are same and different in one sentence: For example, when shown a hula hoop and dinner plate, the student may respond, "They are both round but one is a toy, and the other is a dish."

Calvert County Public Schools

Same But Different

Day 84

ASK: How are these two images the SAME but DIFFERENT?
FOCUS: The focus is to help students connect the numerical representation of 14 with 14 objects.
GOAL: The goal is to make connections between the four in the number fourteen and the four "extra ones" that remain after joining the ten ones. At the kindergarten level, we do not specifically teach tens and ones, but the work we do here with "ten ones and some more ones" is the foundation to place value in Grade 1.

Calvert County Public Schools

## Same But Different

K.NBT.A.1

# How to facilitate Rapid Naming

This routine is designed as a building block to arithmetic fluency. Research indicates that a student's ability to "rapid name" correlates to the student's skill in both reading and mathematical fluency.

To facilitate this routine,

1. Tell students to focus very carefully on the images that will appear on the screen.

2. Say, "As the images appear, say the name of the image out loud. We will be calling out the name of each item together. Try to name the image right when it appears."

3. Monitor students' ability to rapid name the images.

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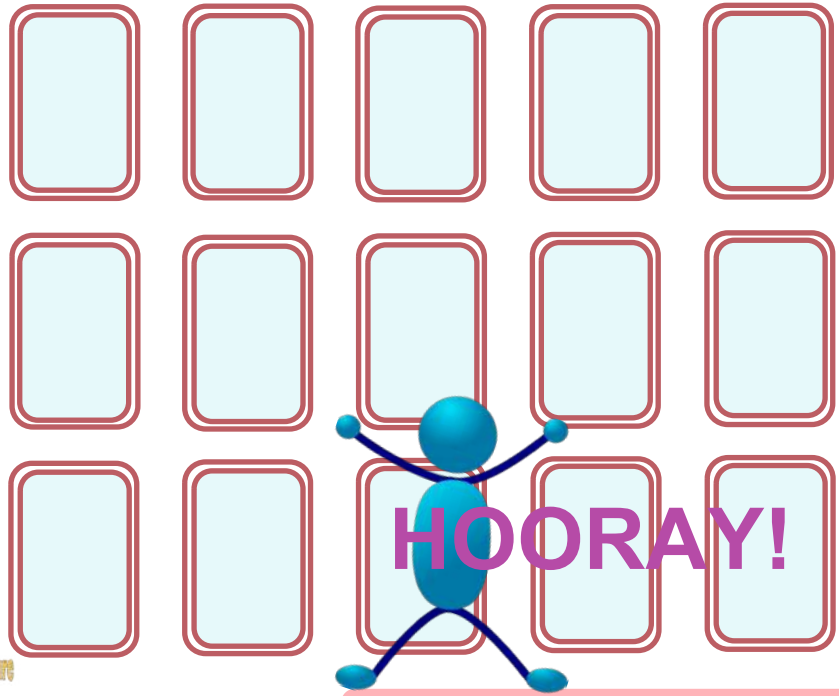
Day 85

SAY: Stay very focused to the board. The little doors will open to reveal a number representation.
We're going to see if we can say each of the values before the next door opens. It's fast, so stay alert! Ready?
****CLICK ONCE to begin the automated reveal process.*
When finished, ASK: What strategy can we use to make counting easier?
SAY: Let's try it again to see if using the strategy that we discussed makes it easier [back arrow, then forward for replay]




Calvert County Public Schools

## Rapid Naming

K.CC.B.5

# How to facilitate GeoChat

This routine is designed to build students understanding of various geometric concepts and the specialized vocabulary required to talk about geometric shapes.

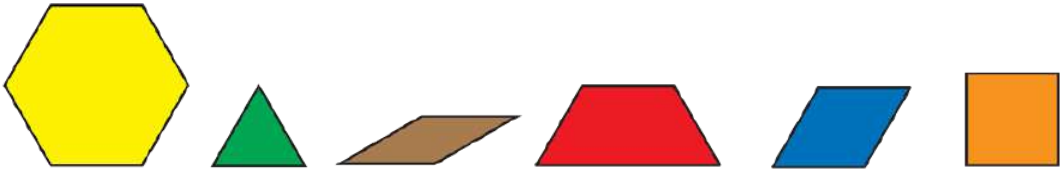
To facilitate this routine,

1. Show the image on the slide
2. Ask the question shown on the slide.
3. Allow students to discuss their ideas with a partner first (this gives them time to gather their ideas and allows all students an opportunity to talk).
4. Ask a few students to share their ideas with the whole group.
   The focus of these number sense routines is for STUDENTS to do most of the talking as they make sense of the math. Encourage students to develop their mathematical vocabulary in a way that allows them to talk about their mathematical ideas with others.
5. Prompt students to also answer the question "How do you know?"

Calvert County Public Schools

GeoChat

SAY: This larger triangle was made using two shapes.
ASK: Which TWO shapes could be used to make the new shape?
Hint: The two shapes are different shapes.
FOCUS: The focus is primarily the use of geometric vocabulary. Allow students to discuss and play with the geometric ideas. Do not rush the ideas or become impatient with the process. The power is in the discussion, not the specific solution.




Calvert County Public Schools

GeoChat

# How to facilitate Splat!

This routine is designed to help students use strategies to count quantities efficiently, build addition and subtraction fluency within 10, and develop an understanding of the relationship between addition and subtraction facts.

To facilitate this routine,

1. Follow the prompts provided with each animation.

2. Students will be shown a set of dots. They will be asked how many dots are on the slide. Ask a few students, "How many dots do you see?"

3. Then ask students to explain how they counted the set of dots. As students explain their strategy (one-by-one counting, grouping, counting by 2s, etc.), annotate student thinking by writing on the slide or through simple gestures.

4. As the animation continues, a Splat! will cover some of the dots. Ask students to determine how may dots are hiding under the Splat! The student explanation of how they know is the most important part of this routine. Listen and celebrate the various efficient strategies that students share.

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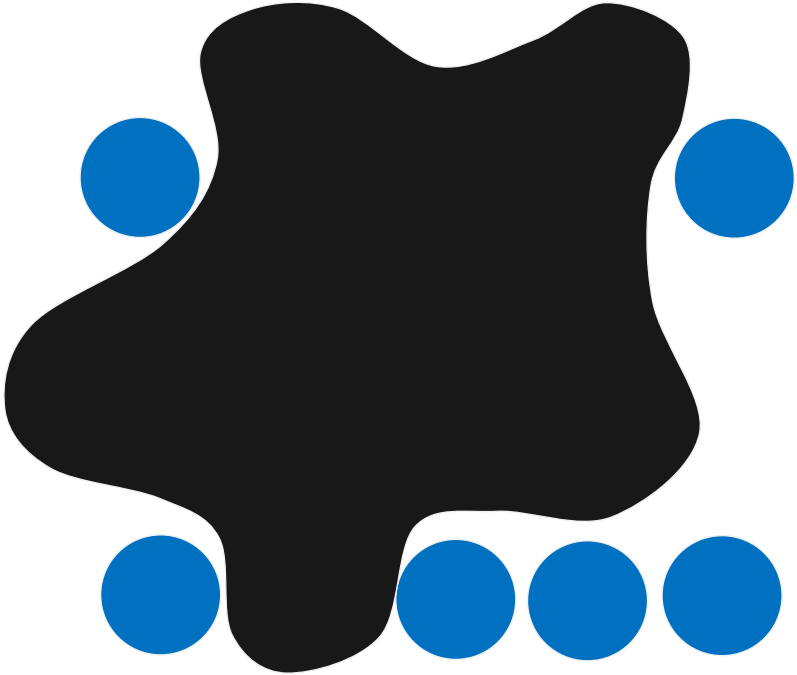
DIRECTIONS: Click to view animations. Read each prompt as you go through the routine.
Remember to use gestures to annotate student thinking. Allow multiple students to share ideas.

# 10

How many blue

What can we learn from this picture?



Calvert County Public Schools

Splat!

# How to facilitate Math Talks

This routine is designed to elicit multiple strategies and provide opportunities for students to reason about numerical relationships and make mathematical connections.

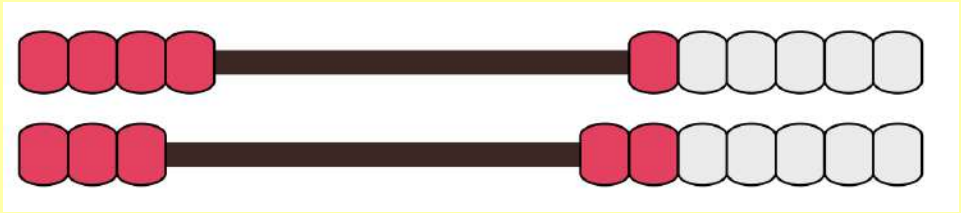
To facilitate this routine,

1. Show the image. Pose the problem by reading the prompt given on the slide.
2. Ask students to use the discreet signal system that has been established as a classroom Number Sense Routine norm – i.e., a thumbs up in front of their chests when they have an answer in mind.
3. When most students have signaled that they are ready, call on students to share their strategies as you annotate the answers they provided.
4. It is important to remain neutral as students respond; avoid indicating whether the student is correct or incorrect at this point in the discussion.
5. Encourage students to actively listen to each other's ideas, ask their classmates clarifying questions, and connect their own strategies to the other strategies that have been offered. Be patient and persistent – these skills will take time to develop.

Calvert County Public Schools

Day 88

FOCUS: Seven
SAY: These beads are “in play”. These beads are “at rest”.
ASK: How many beads are “in play”?
ASK: How did you count them?
CLICK for additional frames to annotate student thinking.



“in play”

“at rest”

Calvert County Public Schools

# Math Talks

Day 88

ANNOTATION: Record student thinking with the pen or with gestures. Include written equations if appropriate.
SOME OF THE POSSIBLE STRATEGIES:

- Counting On – students may have seen four red beads on the top and then counted on four, five, six, seven
- Count All – students may have counted the seven beads one-by-one
- Use the Five/Ten Structure – students may have seen that one red bead was at rest on top so four were in play
- Doubles Plus One – students may have seen three and three plus one

ASK/DISCUSS: Were any of the strategies we talked about today similar?
ASK/DISCUSS: Which strategy do you think was most efficient for counting THESE beads? Why?

Calvert County Public Schools

# Math Talks

K.CC.B.4 & K.CC.B.5

# How to facilitate Quick Count

Quick Count is an instructional routine designed to build on students' natural ability to subitize (recognize the quantity of objects in sets of 1-5 without counting the objects one-by-one). This routine will help students become more aware and purposeful when subitizing and to apply subitizing skills when finding the total quantity of larger sets.

This routine follows a developmental progression with slight changes in the routine after several of the same type are presented.

Step-by-step directions are provided on each slide. Typically, a Number Sense Routine is one slide per day. A Quick Count routine is a single routine like all the other routines but contains more than one slide as part of that day's routine.

The Quick Count progression of skills is listed below:

- 5 subitizing routines
- 3 comparative quantities routines
- 6 composite subitizing routines that ask students to create an equation
- 6 teen number routines with a group of 10 ones and some additional ones

Calvert County Public Schools

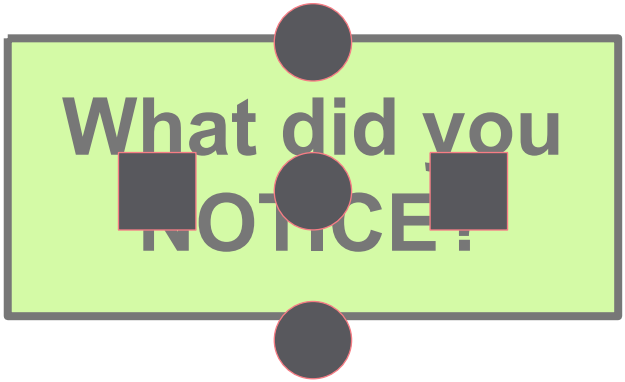
Quick Count

Day 89

SAY: I am going to show you an image. The image will appear for only three seconds, so pay close attention and try to remember what you saw.

****CLICK ONCE to begin the automated reveal process.*

Allow several students to share their observations – do not correct inaccurate observations – the image will be shown again. After students share ideas, CLICK to continue.

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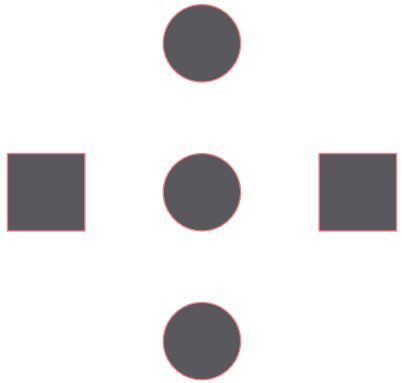
Quick Count

ASK: Now that we have talked about how many of each shape, what equation can we use to show the total number of shapes?
[Allow several students to share their ideas – annotate their ideas in the white space]
[CLICK to reveal a possible equation. CLICK AGAIN to reveal another option]
ASK: What does the 3 represent? What does the 2 represent? What does the 5 represent?



3 + 2 = 5

2 + 3 = 5

Calvert County Public Schools

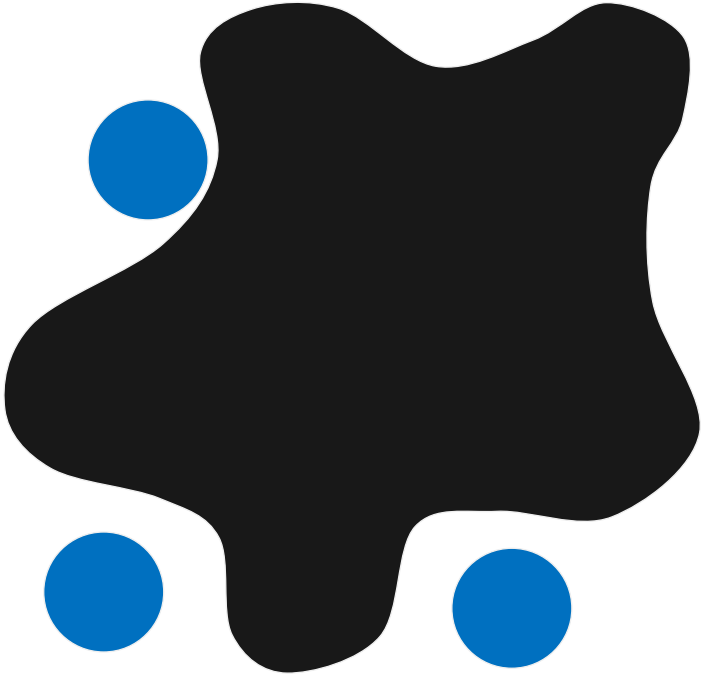
# Quick Count

DIRECTIONS: Click to view animations. Read each prompt as you go through the routine.
Remember to use gestures to annotate student thinking. Allow multiple students to share ideas.

# 10

How many blue

What can we learn from this picture?



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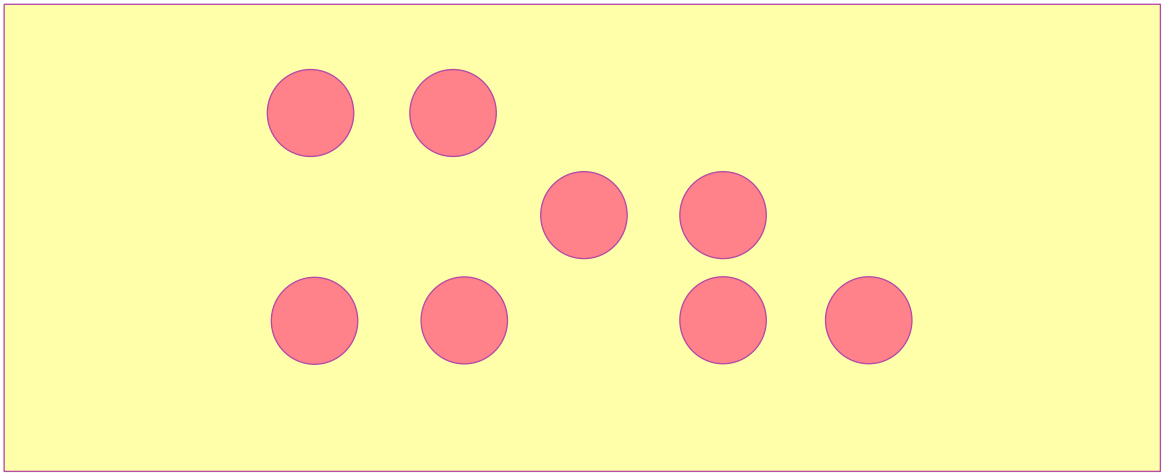
## Splat!

Day 91

FOCUS: Eight
ASK: How many dots?
ASK: How did you count them?
CLICK for additional frames to annotate student thinking.



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# Math Talks

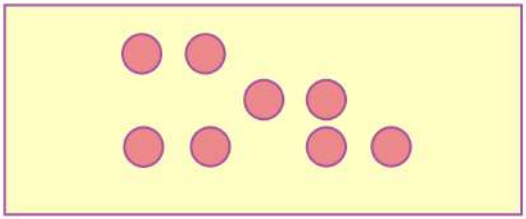
K.CC.B.4 & K.CC.B.5

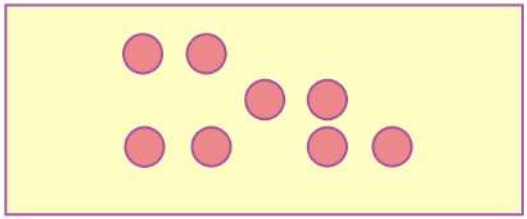
Day 91

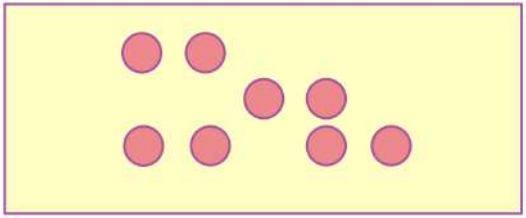
ANNOTATION: Record student thinking with the pen or with gestures. Include written equations if appropriate.
SOME OF THE POSSIBLE STRATEGIES:

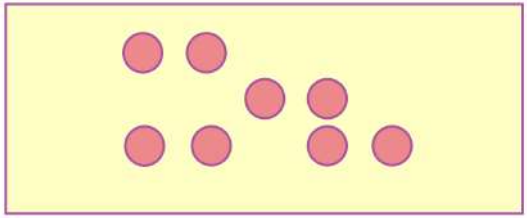
- Counting On – students may have seen four dots and counted on four, five, six, seven, eight
- Count All – students may have counted the seven dots one-by-one
- Use the Five/Ten Structure – students may have grouped five and three and said five and three is eight
- Doubles – students may have seen four and four

ASK/DISCUSS: Were any of the strategies we talked about today similar?
ASK/DISCUSS: Which strategy do you think was most efficient for counting THESE dots? Why?







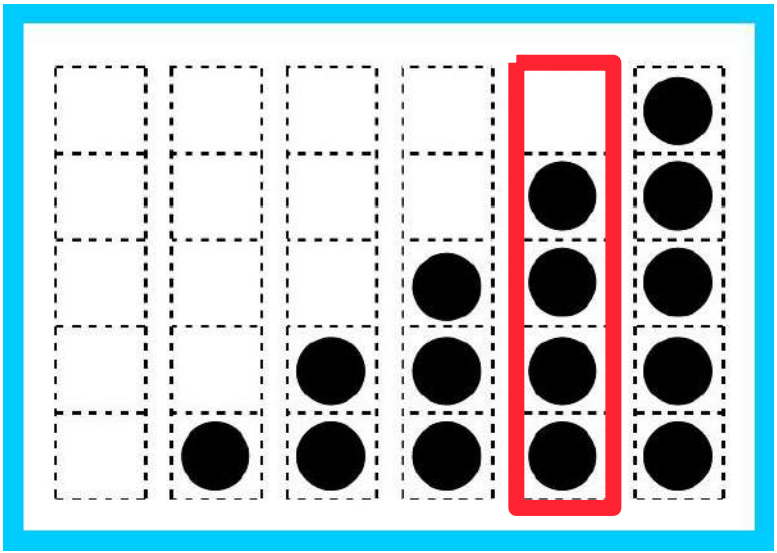


Calvert County Public Schools

# Math Talks

Day 92

ASK: Can you use the clues to guess which number I am describing?
FACILITATION NOTE: Use the annotation tool to mark off dot sets that do not fit the clue.




**Clue 1**
I am greater than 2

**Clue 2**
I am less than 5

**Clue 3**
I need 1 more to make 5

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*Clue by Clue*

K.OA.A.5

Day 93

ASK: How are these two images the SAME but DIFFERENT?
FOCUS: The focus is on recognizing these are sequential counting numbers from different parts of the number line.



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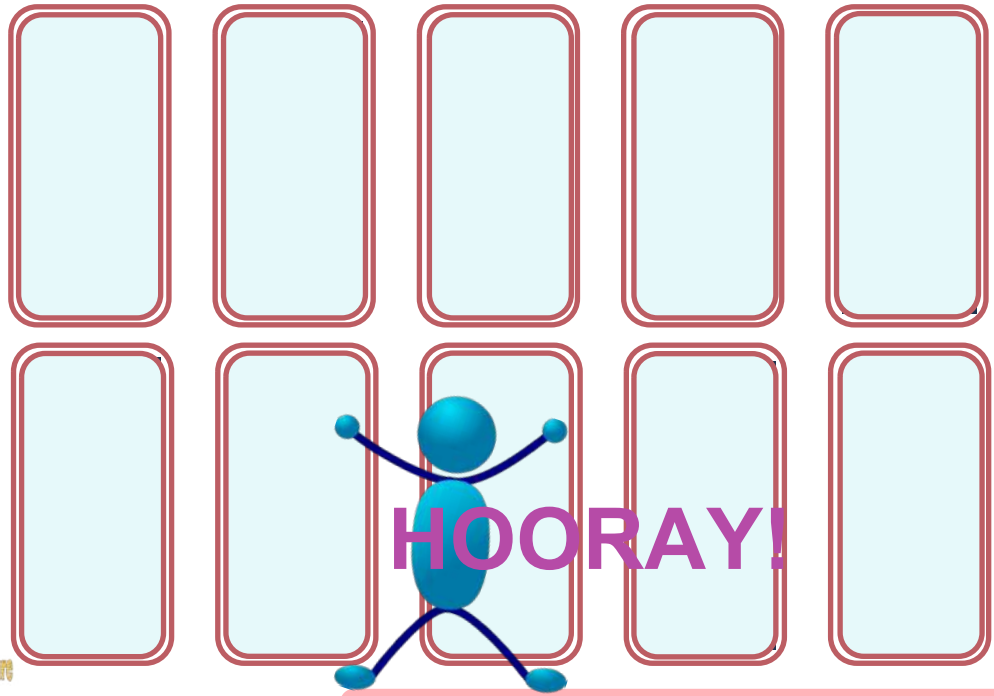
## Same But Different

K.CC.A.2

Day 94

SAY: Stay very focused to the board. The little doors will open to reveal a number representation.
We're going to see if we can say each of the values before the next door opens. It's fast, so stay alert! Ready?
****CLICK ONCE to begin the automated reveal process.*
When finished, ASK: What strategy can we use to make counting easier?
SAY: Let's try it again to see if using the strategy that we discussed makes it easier [back arrow, then forward for replay]



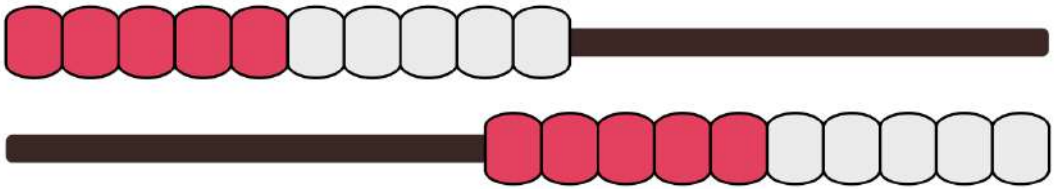

Calvert County Public Schools

Rapid Naming

K.CC.B.5

Day 95

FOCUS STRATEGY: Counting Back
There are five images with today's routine. Advance the slide to see each one.
Allow students to share strategies before advancing to the next slide within this routine.
It will be important to write the number related to each slide so students can recall the number for the follow-up work.
SAY: The beads "in play" will represent the butterflies in my story.



Wher
How m

I see ten butterflies. If some fly away,
There will be nine butterflies.
How many fly away to leave nine?
How do you know?

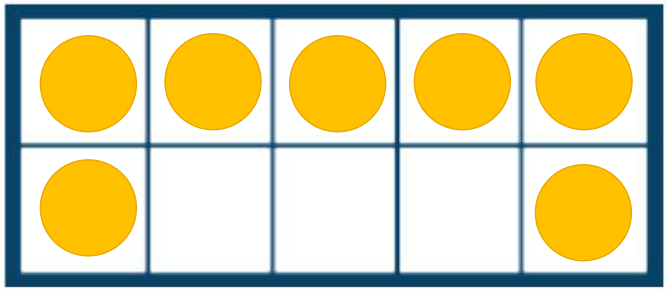
Number Strings

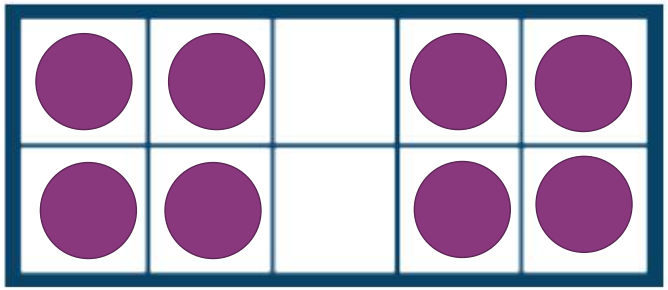
Light the Future
Calvert County Public Schools

K.OA.A

Day 96

ASK: Which 10-Frame has more counters? How do you know?



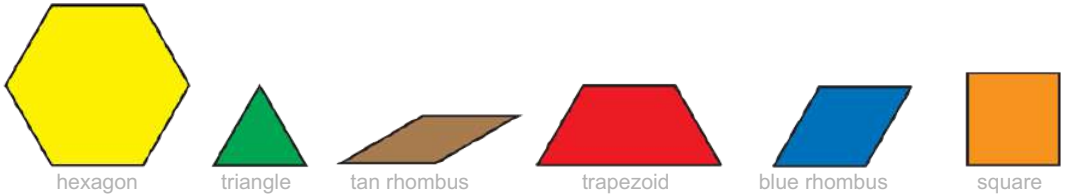


Light the Future
Calvert County Public Schools

# More or Less

K.CC.C.6

SAY: This larger triangle was made using **four** shapes.
ASK: Which FOUR shapes could be used to make the new shape?
HINT: Using the same shape more than once is allowed.
FOCUS: The focus is primarily the use of geometric vocabulary. Allow students to discuss and play with the geometric ideas. Do not rush the ideas or become impatient with the process. The power is in the discussion, not the specific solution.

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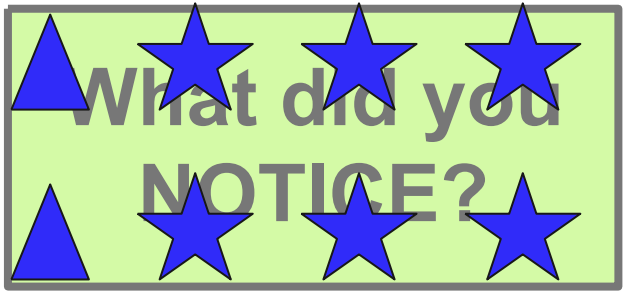
GeoChat

Day 98

SAY: I am going to show you an image. The image will appear for only three seconds, so pay close attention and try to remember what you saw.

****CLICK ONCE to begin the automated reveal process.*

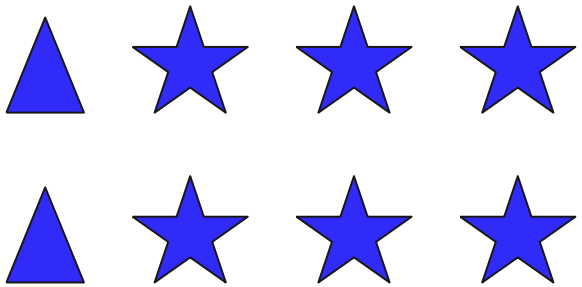
Allow several students to share their observations – do not correct inaccurate observations – the image will be shown again. After students share ideas, CLICK to continue.




Calvert County Public Schools

Quick Count

ASK: Now that we have talked about how many of each shape, what equation can we use to show the total number of shapes?
[Allow several students to share their ideas – annotate their ideas in the white space]
[CLICK to reveal a possible equation. CLICK AGAIN to reveal another option]
ASK: What does the 8 represent? What does the 2 represent? What does the 6 represent?



$8 = 2 + 6$

$8 = 6 + 2$

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Quick Count

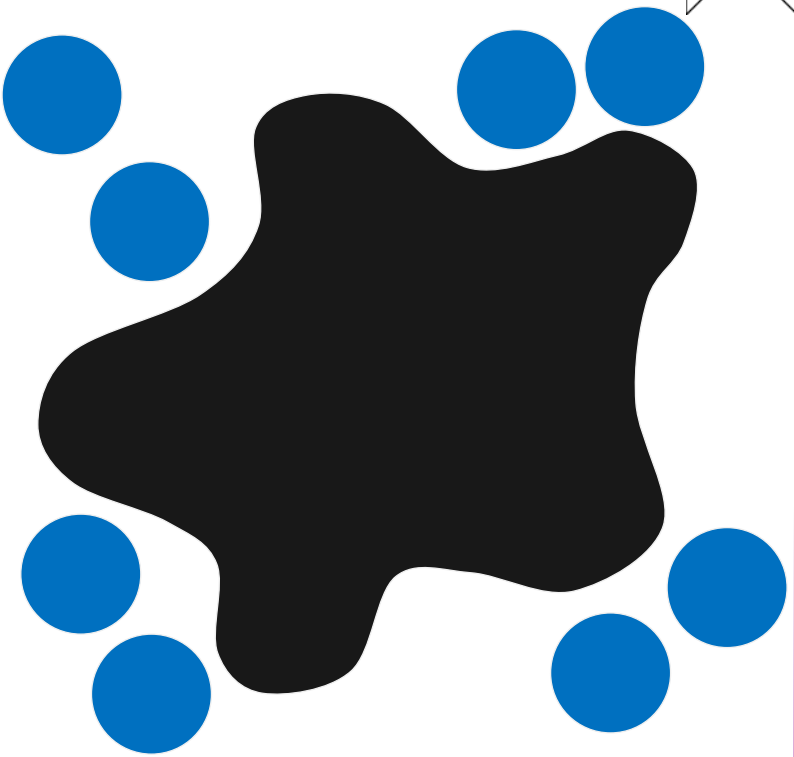
Day 99

DIRECTIONS: Click to view animations. Read each prompt as you go through the routine.
Remember to use gestures to annotate student thinking. Allow multiple students to share ideas.

8

How many blue

What can we learn from this picture?



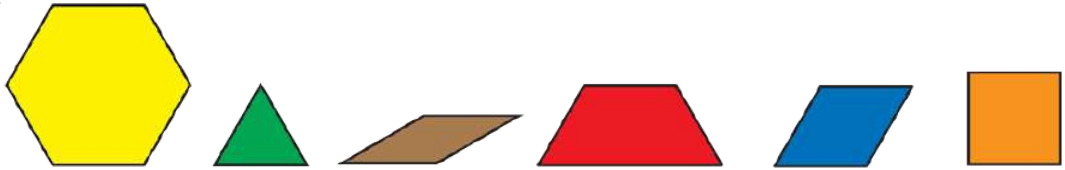
Calvert County Public Schools

Splat!

K.CC.B.5 & K.OA.A.4

Adapted from www.stevewyborney.com

SAY: This hexagon was made using **two** blocks.
ASK: Which two blocks were needed to make this hexagon?
FOCUS: The focus is primarily the use of geometric vocabulary. Allow students to discuss and play with the geometric ideas. Do not rush the ideas or become impatient with the process. The power is in the discussion, not the specific solution.




Calvert County Public Schools

GeoChat

# Many THANKS!

**180 Days of Number Sense Routines for Kindergarten**

created by the Elementary Mathematics Team of **Calvert County Public Schools**, Maryland

Want to know more? Reach out to our team

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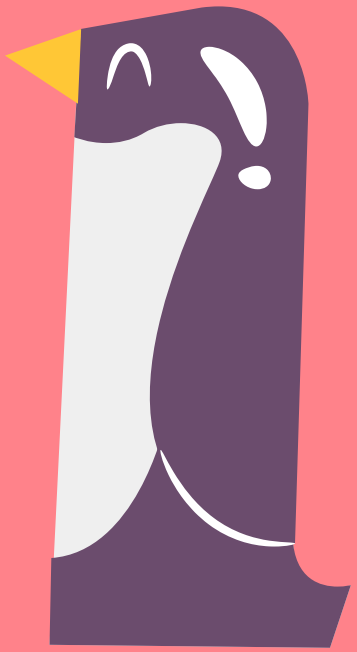

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