180 Days of
Number Sense Routines
Grade 1
Days 161-180

Calvert County Public Schools

180 Days of
Number Sense Routines

WHY IS DEVELOPING NUMBER SENSE IMPORTANT? Number Sense is the foundational building block for all strands of mathematics. Students who struggle in mathematics do not lack mathematical ability, but rather, they simply do not have a strong number sense on which to build their knowledge. Just as we are not born knowing how to read, we are not born with Number Sense. It must be developed and nurtured over time through a progression of understandings about numbers and their relationships to one another. With time and focused practice, students come to understand that numbers are meaningful, and outcomes are sensible and expected. Number Sense development encourages students to think flexibly and promotes confidence with numbers.

WHAT IS A NUMBER SENSE ROUTINE? A routine is an activity or event that occurs on a regular basis over time. Routines provide a framework for our day to support both the teacher and students. Routines help to build community and create a safe learning environment for students. Routines build a sense of belonging, ownership, and predictability which make the classroom a place to take risks. We learn through risk-taking; we take risks when we feel safe; we feel safe in a supportive learning environment; we create supportive learning environments through routines. Just as we have established routines for bus dismissal and fire drills, we must also establish routines that build mathematical thinking and discourse.

180 Days of
Number Sense Routines

HOW WILL THESE NUMBER SENSE ROUTINES BENEFIT ME AND MY STUDENTS? What teachers do and how they do it is critically important and has a profound impact on the quality of the educational experience of our students. Effective pedagogy, the art and science of teaching, is a key element in the learning process. The Number Sense are models of effective pedagogy and ensure that the critical Number Sense instruction we provide is equitable to all our students regardless of geography, teacher experience, or student circumstance. As we prepare our students to be mathematically proficient in their lives beyond the classroom walls, these Number Sense routines will help to lay the critical foundation for all future mathematical endeavors.

WHAT ARE THE CCPS IMPLEMENTATION EXPECTATIONS? Number sense routines have been developed for all 180 instructional days in grades 1-5. These routines are to be used every day, including early dismissal, late arrival, and field trip days. Because the routines do not require a specific order, it is permissible to trade routines among days to best match the time available. Number Sense must be built over time. With consistency, we can build students' number sense creating a strong mathematical foundation. If students or the teacher is struggling with a routine, it is expected that the teacher collaborate with colleagues to build capacity in that routine – do not just choose to skip the routine. If additional help is needed, the teacher should seek the assistance of their content specialist or mathematics supervisor.

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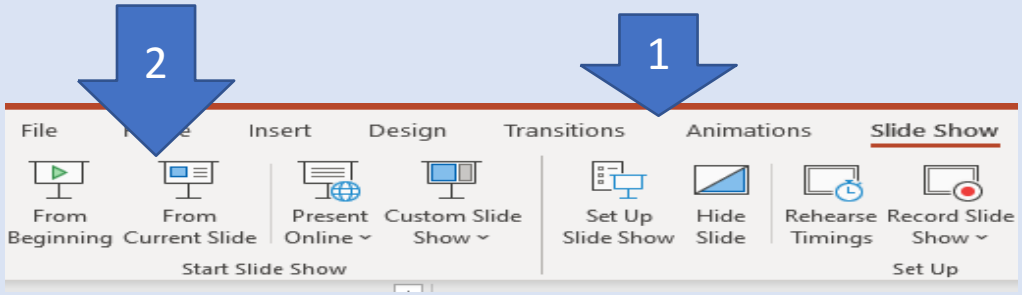
180 Days of
Number Sense Routines

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>

180 Days of
Number Sense Routines

Acknowledgements

We are grateful to those who have inspired this project – and there have been many. These slide decks were designed for Grades 1–5 with custom-built daily routines for each grade level. The nine routines blend original creations, adaptations, and borrowed OER materials. We have made our work available in Open Educational Resources so that others may benefit as we have. Our deepest gratitude and respect to all those who helped move our work forward, and a special thank you goes to the following whose own work had such a tremendous impact on our 180 Days of Number Sense Routines:

- *Decide & Defend* and *Quick Count* routines were adapted from templates created by Grace Kelemanik and Amy Lucenta at http://FosteringMathPractices.com
- *Estimation Clipboard, Esti-Mysteries,* and *Splat!* templates created by www.SteveWyborney.com
- *Same But Different* discussion from Developing Grayscale Thinking by Looney Math Consulting at https://www.samebutdifferentmath.com
- *Which One Doesn't Belong* tasks adapted from http://wodb.ca by Mary Bourassa

Directions for QUICK COUNT routines

Quick Count is an instructional routine designed to shift attention away from mindless calculations and toward necessary structural interpretations of mathematics. This routine fosters structural thinking, Math Practice 7, and promotes student discourse.

1. Pair students into Numbered Heads (Peanut Butter Jelly partners, etc.)
2. **Show students the first image slide for about 3-5 seconds depending on the complexity of the image and level/experience of the students.**
   After 3-5 seconds, advance the slide to hide the image.
3. With their partner, students discuss everything they can remember about the image.
4. After a minute of partner discussions, have students share ideas to the group.
5. Create a list of student ideas that students can refer to when the image is shown again.
6. Tell students that you are going to put the slide back up without hiding it so they can COUNT the images using some type of **shortcut strategy** (chunking, symmetry, arrays…)
7. Show the image again and leave it displayed as students look for counting shortcuts.
8. With their partner again, students discuss how many objects are in the image and describe the shortcut counting strategy they used. Give time for partner discussions. Listen in and take notes about discussions to determine which students will share.
9. Use the slide with identical images as a comparative visual as students take turns explaining how they counted the objects in the image. This 2-step process is important for building listening comprehension and students' ability to articulate the ideas of others.
   a. Use your notes to select different students with different approaches.
   b. The student explains his/her shortcut as the teacher **gestures** over the image.
   c. A **different student** is asked to **REPEAT the original student's shortcut** as the teacher **annotates** (circles, underlines) on the image to show the shortcut used.
   d. Repeat the process using different student-generated shortcut strategies.
10. End by asking students to explain what was "mathematically important"

Day 161

What do you NOTICE?

QUICK COUNT

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Day 161

QUICK COUNT

What did you NOTICE?

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Day 161

These are nickels.
What is the total value of the nickels?
What counting shortcut did you use?

QUICK COUNT

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I noticed ____ so I _____

(They) noticed ____ so they___

Day 161

QUICK COUNT

Day 161

Reflect

What was mathematically important?

QUICK COUNT

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Day 162

Esti-Mystery

Estimation Activity with clues!

Students use clues to solve the estimation mystery.
After all of the clues are revealed, students will have enough information to determine if their initial estimate was correct.

Clues are revealed one at a time with time to discuss and refine original estimates after EACH clue is revealed.
No one should be stuck with their original estimate – encourage mindful refinements throughout the routine.

Students may benefit from using paper and pencil to work through possibilities or **consider creating a class chart where possibilities are added and crossed off as each clue is revealed.**

ESTIMATION

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What is the value of the third dice?

As the clues appear, use the information to narrow the possibilities to a smaller set. Then use estimation to determine which of the remaining answers is the most reasonable.

Clue #1

All of the dice show a 1-digit number

Clue #2

The mystery dice has the greatest value of all 3 dice

Clue #3

None of the dice are the same value

Clue #4

The total of the 3 dice is less than 21

By combining the clues and estimation, you now have enough information to determine the answer.

The Reveal
Click to see the answer.

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Choral Counting Up

Day 163

CHORAL COUNTING

SAY

- Today we are going to count the next five numbers beginning at different start places.
- I will chart the counting numbers we say then we will look for patterns.
- Chart the count on the next slide or on chart paper and then use the chart to discuss number patterns students see

TIP: *Hold up 5 fingers and count up the next five numbers. Put one finger down for each number to cue students when to stop.*

Patterns that you may notice:

- *When the ones place has a 9, the next number always has a 0 in the ones place (9, 10 or 59, 60 or 99, 100 or 39, 49 or 29, 30)*
- *When the ones place changes to a zero, the tens place increases by 1 ten*
- *The number to the right is always greater than the previous number counted*
- *The number to the left is always less than the next number counted*

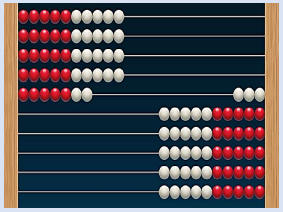
Choral Counting Up

Day 163

Count by 1s. Record the next 5 numbers in the count. Look for patterns.

9					
58					
96					
35					
27					

CHORAL COUNTING



The Rekenrek shows 47 beads.

+3

+4

+8

+13

Day 164

NUMBER TALK

TEACHER NOTES

BEFORE

This slide has the String of expressions that you will use for today's Number Talk. You can use Smart Ink, right click for PowerPoint Pen, or convert this slide to Smart Notebook so you can easily annotate on the slide. The annotation is an important part of the routine. The expressions should be presented one-at-a-time with skills building on one another.

DURING

TIP: Consider using a REAL Rekenrek (Math Rack) to verify students' ideas after each discussion

Making Tens - Adding on the Rekenrek

- The Rekenrek shows 47 beads. 4 rows of 10 and 1 row of 7. If we add 3 beads, it will finish another row for 50, so 47 + 3 = 50 ---- be sure to bring students back to the equation that was created each time!
- +4 would finish another row of 10 with 1 bead on the next row for a total of 51 beads, so 47 + 4 = 51
- +8 can be decomposed into 3 + 5 so we can use the 3 to finish the row then have 5 remaining, so 47 + 8 = 55
- +13 can be decomposed into 3 + 10 so we can use the 3 to finish the row than have 10 left to make another row for a total of 60, so 47 + 13 = 60

Remember, the most important part is the discussion and the opportunity for students to articulate their thinking. Students will come with a variety of strategies. During a Number Talk, the students explain their way of thinking. When students find ways that are especially efficient, highlight those strategies in the reflection that should follow the Talk. Help students to understand a wide variety and guide them into understanding that some strategies work better in some situations, so knowing more than one way to solve an equation like this one is important so they can later choose the method that is most efficient.

AFTER

Help students to recognize how Making Tens through decomposing is useful for efficient addition.

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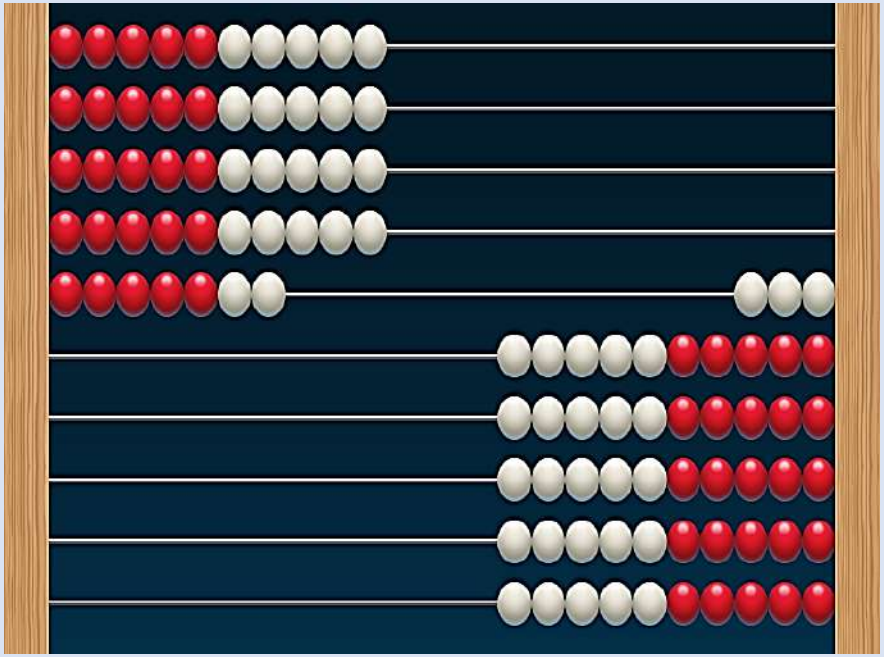
Day 164

How many total beads if we add ___ beads.
How do you know?

+3 beads



NUMBER TALK

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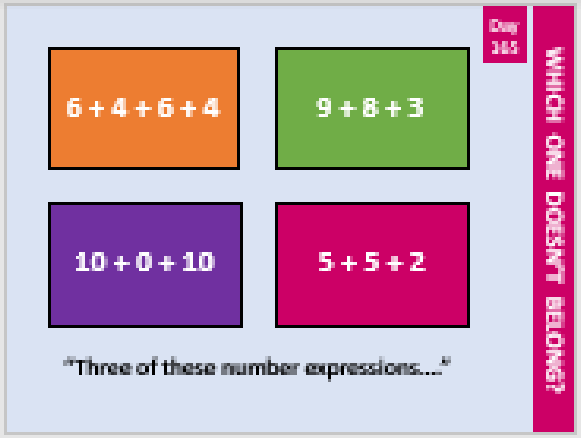
Use the NEXT SLIDE with students.

Here is are some possible responses. This list is not all-inclusive.
Additional ideas encouraged!

Day 165

WHICH ONE DOESN'T BELONG?



Possible Responses:

- Three of these number expressions have 3 addends. The expression in the orange box uses 4 addends, not just 3 addends.
- Three of these number expressions have a doubles fact. The expression in the green box does not have a doubles fact.
- Three of these number expressions use only 1-digit numbers. The expression in the purple box does not use just single-digit numbers.
- Three of these number expressions equal 20. The expression in the pink/red box does not equal 20.

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Day 165

WHICH ONE DOESN'T BELONG?

$6 + 4 + 6 + 4$

$9 + 8 + 3$

$10 + 0 + 10$

$5 + 5 + 2$

"Three of these number expressions…."

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An Interactive Open Number Line Task: **What is the Pattern?**

Day 166

OPEN NUMBER LINE

What's the pattern?

Prepare number cards that have a mathematical pattern. (ex. 2, 4, 6, 8, 10, 12, 14, 16, 18)

Begin by giving selected students the number cards but do not tell them about the mathematical pattern.

- You want students to begin hearing the various numbers that were distributed to classmates to activate their thinking and to begin visualizing the placement of the cards on the number line. Call on a student who is holding one of the cards to read the value on his or her card.
- Tell the students that we are trying to find the beginning endpoint. Does anyone have a value that is smaller than ___? (say the number that the first students called out)
- Once you find the smallest value, use that as the beginning endpoint. Have the student place it to the left on the number line.
- Repeat this process to find who is holding the greatest value.
- Does anyone have a number that is greater than ___?
- Once the greatest value is discovered, have the student place it on the number line.
- Ask the remaining students to place their numbers where they belong on the number line – remind them to be mindful of appropriate distances from the neighboring numbers.
- With your students, adjust the spacing as needed – be sure to discuss this important aspect.
- Ask: What do you notice?
- Allow for every observation with the hope that someone will notice that the numbers are equally spaced in value which means that they should be equally spaced on the number line.

For more Open Number Line Activities, visit http://www.MathSnack.blogspot.com

Day 167

SPLAT!

24

What is the value of the dots that you can see?

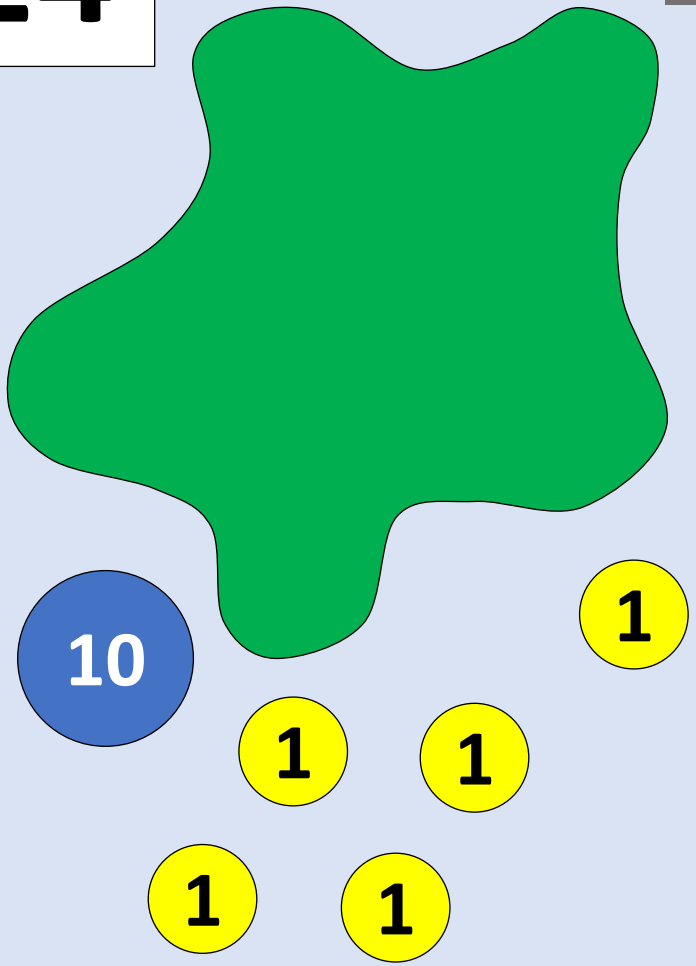
Some of the dots are hiding. Let's see the total.

How much is hiding? How do you know?

How else could you know?

Let's see what was hiding

Without counting the ones 1-by-1, how can we efficiently add these values to prove the total is 24?



53 + 10
53 + 9
87 + 10
87 + 8

Day 168

TEACHER NOTES

BEFORE

This slide has the String of expressions that you will use for today's Number Talk. You can use Smart Ink, right click for PowerPoint Pen, or convert this slide to Smart Notebook so you can easily annotate on the slide. The annotation is an important part of the routine. The expressions should be presented one-at-a-time with skills building on one another.

DURING

Using the 120 chart to add

Below are POSSIBLE responses. Students may add differently than shown. The goal is (1) for students to have a logical way to add numbers using the 120 chart or other strategy (2) to be able to articulate those strategies.

- 53 + 10---- begin on 53. This is a good opportunity to point out that we do not need to count up to 53, we can begin on 53 and then add on 10 by moving DOWN one row – be sure students understand that we can use this shortcut because counting 10 spaces lands one row below every time since the chart is organized in rows of 10 numbers.
- 53 + 9 ---- if a student says that they counted by 1s to move from 53 to 62, accept that as a valid strategy. Encourage students to discuss other strategies and then highlight the response if a student notices that we can move down one row like the previous expression to add ten quickly and then BACK 1 since we are subtracting 9, not 10.
- 87 + 10 --- move down one row since this chart is organized with 10 on each row
- 87 + 9 --- add 10 by moving down one row then moving left 1 to subtract 1 since we are adding 9, not 10

Remember, students will come with a variety of strategies. During a Number Talk, the students explain their way of thinking. When students find ways that are especially efficient, highlight those strategies in the reflection that should follow the Talk. Help students to understand a wide variety and guide them into understanding that some strategies work better in some situations, so knowing more than one way to solve an equation like this one is important so they can later choose the method that is most efficient.

AFTER

It is important that adding ten by moving down one space within a column does not simply become a procedure. Students must UNDERSTAND why this shortcut works. Counting the ten spaces one-by-one should not be discouraged as it helps to build this conceptual understanding; from this understanding we should work to move students toward more efficient methods. Help students to understand the pattern as they move from one-by-one counting to knowing how to add ten all at once through an understanding of place value.

NUMBER TALK

Day 168

NUMBER TALK

53 + 10

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

Day 169

Estimation Activity

Have you already watched the teacher information video?

When you are ready to use this activity,
use the PowerPoint Slide Show platform so the slides work properly.

PROMPT: **How many gems are in each bowl?**

ESTIMATION

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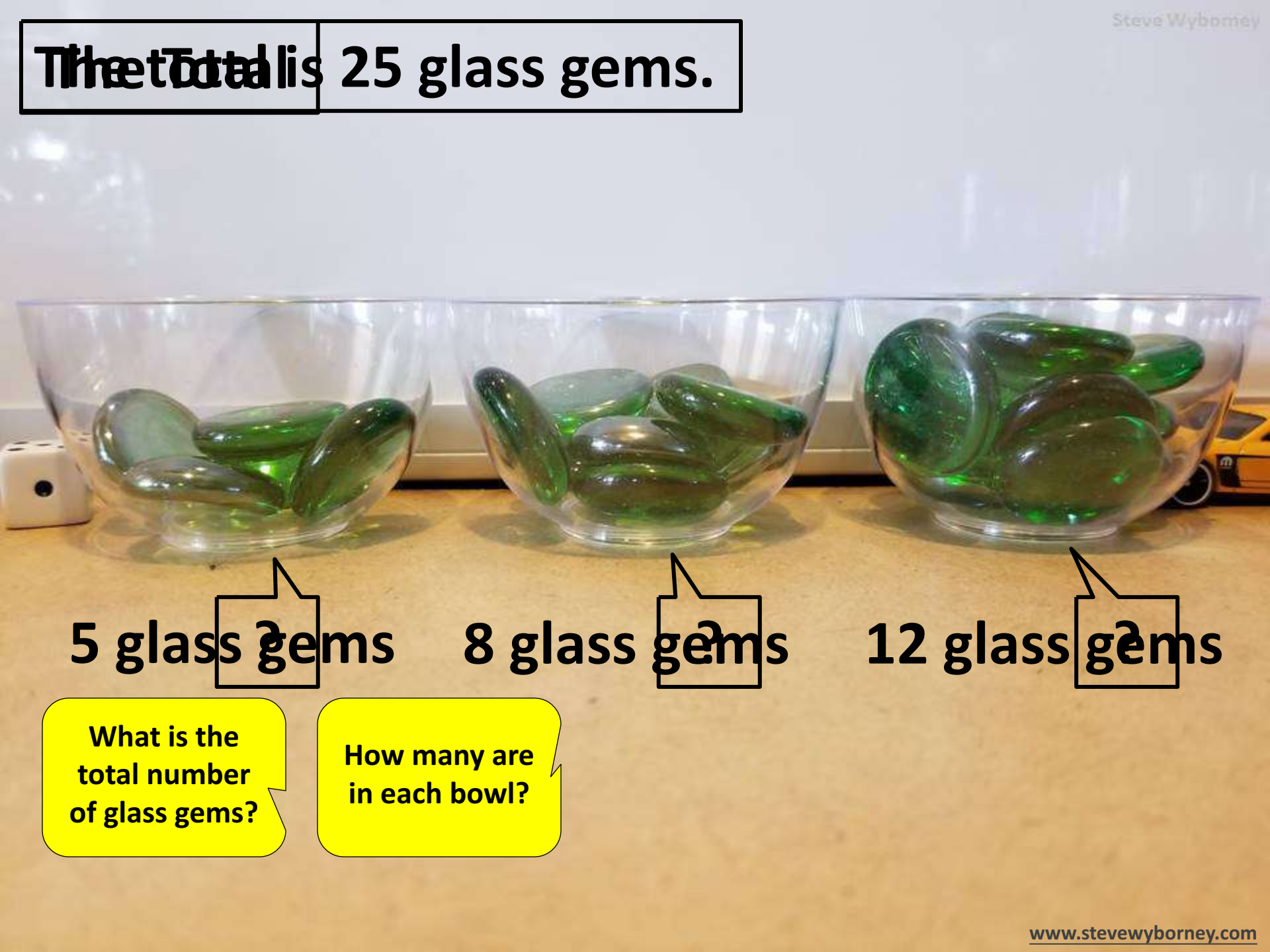
The total is 25 glass gems.



5 glass gems ? 8 glass gems ? 12 glass gems ?

What is the total number of glass gems?

How many are in each bowl?

Choral Counting - Adding Tens

Day 170

CHORAL COUNTING

SAY

- Today we are going to count all together.
- We will ADD 10 each time.
- We will count 5 numbers in the sequence then I will change the starting number.
- We are going to count slowly, so I can chart the numbers we say.
- We will do this a few times and then we will look at our chart to see if we can find any patterns.

- Use the chart on the next page.
- Discuss patterns students notice
  - The numbers in the ones place stay the same
  - The number in the tens place increases by 1 ten

Day 170

Choral Counting - Adding Tens

Round 1	**20**	**30**	___	___	___	___
Round 2	27					
Round 3	52					
Round 4	3					

CHORAL COUNTING

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Day 171

Using the DECIDE & DEFEND routine

As you do this routine with students, USE the CHECKLIST on the left side of the problem as a way to help organize the thinking process

- **READ to Understand:** Begin by having students discuss the question being asked. At this time, do NOT focus on the math calculations required or the answer. This step is designed for students to understand the context of the question (What is the gist of the question?)

- **DECIDE**: Pair or group students. Using a consistent pairing will make this routine more fluid so you do not have to take time to pair students every time you want them to discuss. Have students discuss the question and discuss the question and decide which solution is correct (note: partners may not agree and that is fine provided they can justify their own thinking).

- **DRAFT**: Students draft a statement about their ideas (either as a group or individually and it can be written or oral – teacher's choice)

- **DEFEND**: Students share their ideas and defend their reasoning with the whole group. Encourage active listening and accountable talk.

- **RELECT**: To further develop comprehension, have students use ONE of the sentence starters on the "Reflect on Learning" slide after they have discussed and listened to new ideas with classmates.

NOTE: This is the CCPS adaptation of the original Decide and Defend protocol

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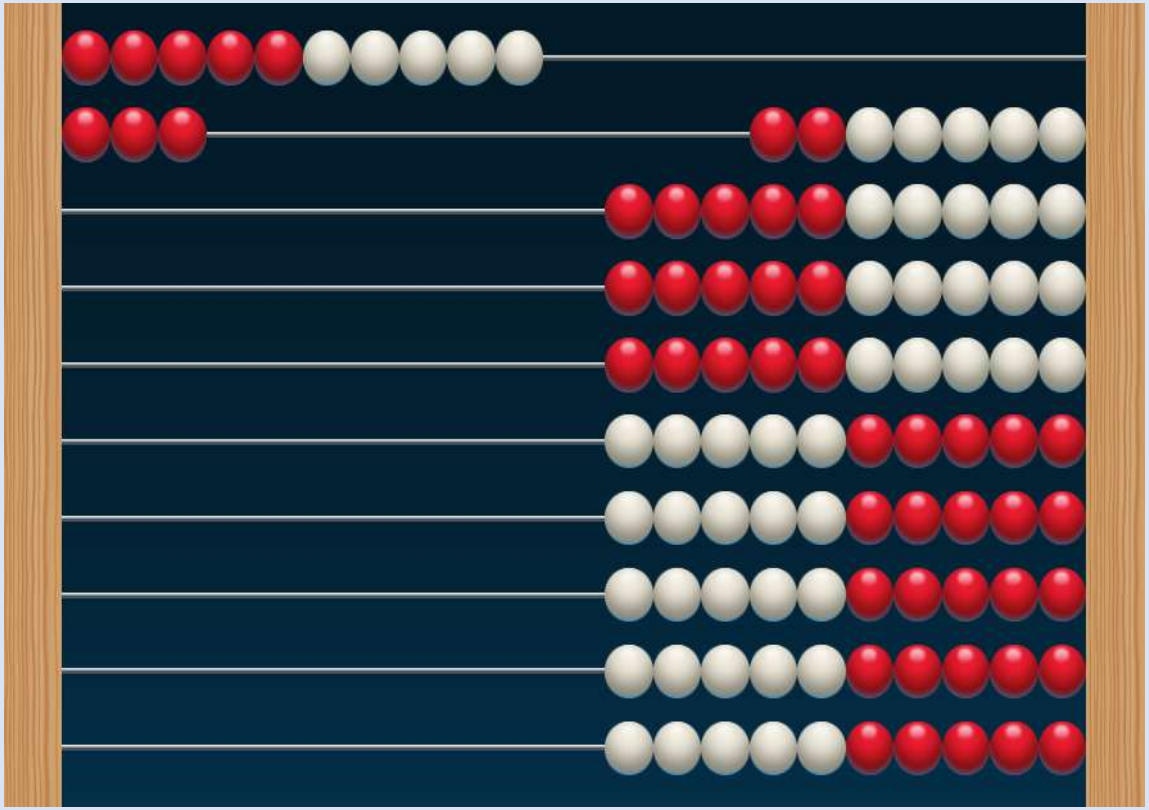
DECIDE & DEFEND

USE THIS PAGE [IF NEEDED] TO BUILD FOUNDATIONAL KNOWLEDGE

Day 171

How many beads are in play?



SAY:
This is a Rekenrek (rek-ken-rek) or Math Rack. Each row has 10 beads: 5 red and 5 white beads.
The beads that are on the left are “in play”. The beads on the right are “at rest”.
This rack shows 13 beads “in play”. Let’s look at the rack to see the 13 beads that are in play.
How could I change this rack so that 17 beads are in play? (slide 4 more beads to the left)

DECIDE & DEFEND

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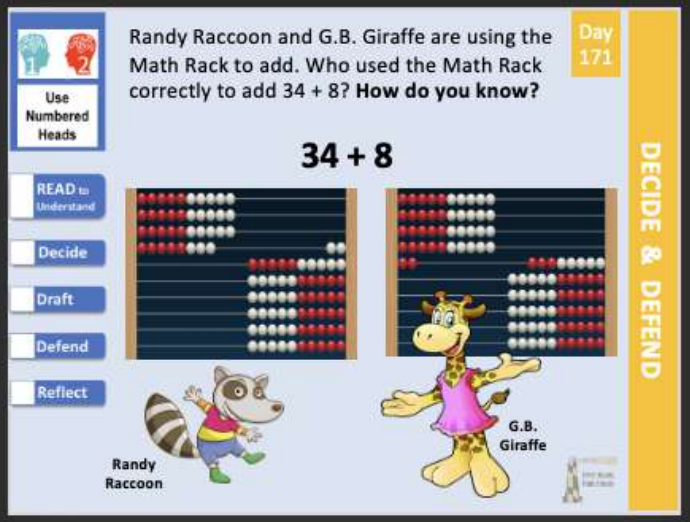
Use the NEXT SLIDES with students.

Here is are some possible responses. This list is not all-inclusive.
Additional ideas encouraged!

Day 171

DECIDE & DEFEND



G.B. Giraffe has used the Math Rack correctly to add 34+8.
Randy raccoon is showing 30+8. Students may think this one is correct since it says +8 and they can see 8 beads on the bottom row.
On G.B. Giraffe's rack, we can imagine 8 from the top rack and then combine the 2 remaining with the 2 at the bottom for 4 on the bottom and 3 complete rows above. (there are MANY strategies for visualizing this – explore several that your students mention)

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Use Numbered Heads

READ to Understand

Decide

Draft

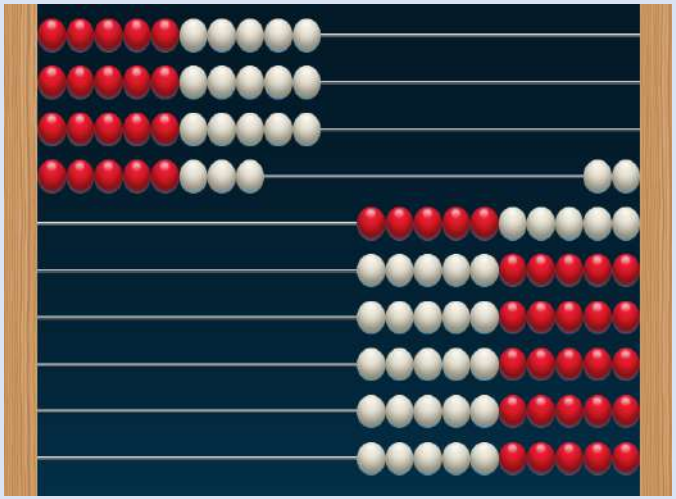
Defend

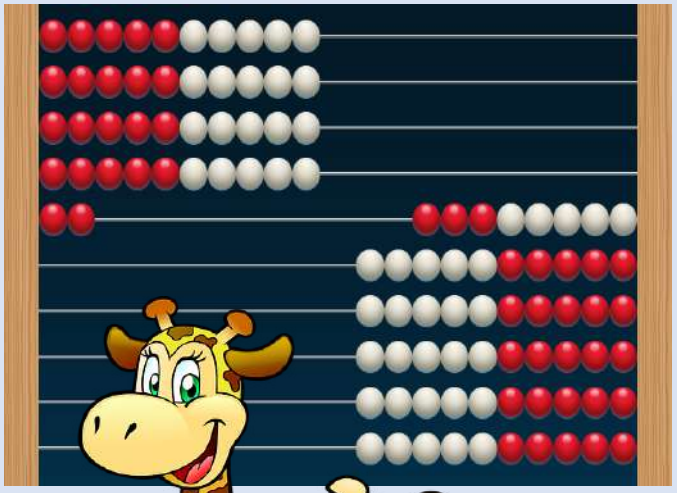
Reflect

Day 171

Randy Raccoon and G.B. Giraffe are using the Math Rack to add. Who used the Math Rack correctly to add 34 + 8? **How do you know?**

34 + 8





Randy Raccoon

G.B. Giraffe

DECIDE & DEFEND

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Day 171

Reflect on Learning

- A new math idea I learned today is…
- Next time I plan to… because….
- The way the Rekenrek is organized makes it easy to use because….

DECIDE & DEFEND

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Intro

SAME BUT DIFFERENT

About the SAME BUT DIFFERENT Routine

Same But Different is a powerful routine for use in math classrooms. The *Same but Different* routine compares two things **calling attention to both how they are the same and how they are different**. This apparent paradox is the beauty of the activity. In this analysis, *instead of making a choice and trying to prove that these are the same or prove that they are different, **students consider how two items can be both**.* This is a critically important distinction from many other tasks.

One of the reasons students struggle in math is that they struggle to make connections. Someone who has poorly developed number sense might see each number as its own thing, and not part of the larger network of mathematical ideas. A mathematical conversation using the language *same but different* that calls attention to how a new concept in math is the same as another familiar and comfortable concept but different in a specific way is a useful conversation in growing a student's network of connections. Building these connections could also reduce anxiety as children become the sense-makers in the conversation.

Source: www.samebutdifferent.net.com/about

Facilitating the SAME BUT DIFFERENT Routine

1. Present the slide
2. Ask students to THINK about how the two items are both the SAME AND DIFFERENT.
3. Do not allow conversation at this time -- give ample think time for students to consider the possibilities
4. After some time has been given (a minute or so), ask students to talk with their Number Head partner or small group about their ideas -- allow this conversation to dominate the time dedicated to this routine
5. As students talk with partners/groups, walk around and listen to the conversations. Resist jumping in; let them grapple with the ideas with their peers.
6. As you walk around listening, take notes. You will use these notes to help direct the whole group conversation.
7. Refocus student attention to the front of the room for a whole group debriefing session. Ask students to share some of their ideas about how the two were both the SAME and DIFFERENT – use the notes you took to bring out important ideas that will benefit the entire room.

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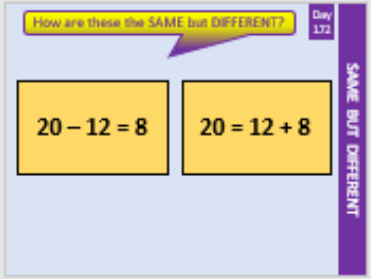
Use the NEXT SLIDE with students.

Here is are some possible responses. This list is not all-inclusive.
Additional ideas encouraged!

Day 172

- Students may simply recognize a component that makes them the “same” OR “different”
- Some students may state a same/different relationship and say that they are the “same because…. But different because….”



SAME:
- Both are same fact family: 20, 12, 8
- Both have an equal sign (are equations)
- The numbers are written in the same order for both

DIFFERENT
- The first is subtraction. The second is addition.
- The first has two numbers on the left of the equal sign. The second has one number to the left of the equal sign.
- The first has the operation sign (-) to the left of the equal sign. The second has the operation sign (+) on the right of the equal sign.
- (Note: Be cautious to avoid saying “the answer is” – we should help students to recognize that the equal sign indicates BALANCE on each side and does not mean “the answer is”

SAME BUT DIFFERENT

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How are these the SAME but DIFFERENT?

Day 172

SAME BUT DIFFERENT

$20 - 12 = 8$

$20 = 12 + 8$

Day 173

27 + 10
27 + 20
72 + 20
72 + 30

TEACHER NOTES

BEFORE

This slide has the String of expressions that you will use for today's Number Talk. You can use Smart Ink, right click for PowerPoint Pen, or convert this slide to Smart Notebook so you can easily annotate on the slide. The annotation is an important part of the routine. The expressions should be presented one-at-a-time with skills building on one another.

DURING

Adding Multiplies of 10 to a 2-digit number

Key Ideas:

- Students should recognize that by adding tens, we are only impacting the number of tens.
- 27 + 20, for example, we have 2 tens and 7 ones and we are adding 2 more tens for a total of 4 tens giving us a new total of 4 tens and 7 ones or 47

Remember, students will come with a variety of strategies. During a Number Talk, the students explain their way of thinking. When students find ways that are especially efficient, highlight those strategies in the reflection that should follow the Talk. Help students to understand a wide variety and guide them into understanding that some strategies work better in some situations, so knowing more than one way to solve an equation like this one is important so they can later choose the method that is most efficient.

AFTER

Use the 100s chart if needed to model adding multiples of 10. Be sure that students understand that each row has 10 numbers, so moving down one row will add 10 to the number.

NUMBER TALK

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Day 173

NUMBER TALK

27 + 10

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An Interactive Open Number Line Task: **What is the Pattern?**

Day 174

OPEN NUMBER LINE

What's the pattern?

Prepare number cards that have a mathematical pattern. (ex. 15, 20, 25, 30, 35, 40, 45, 50)

Begin by giving selected students the number cards but do not tell them about the mathematical pattern.

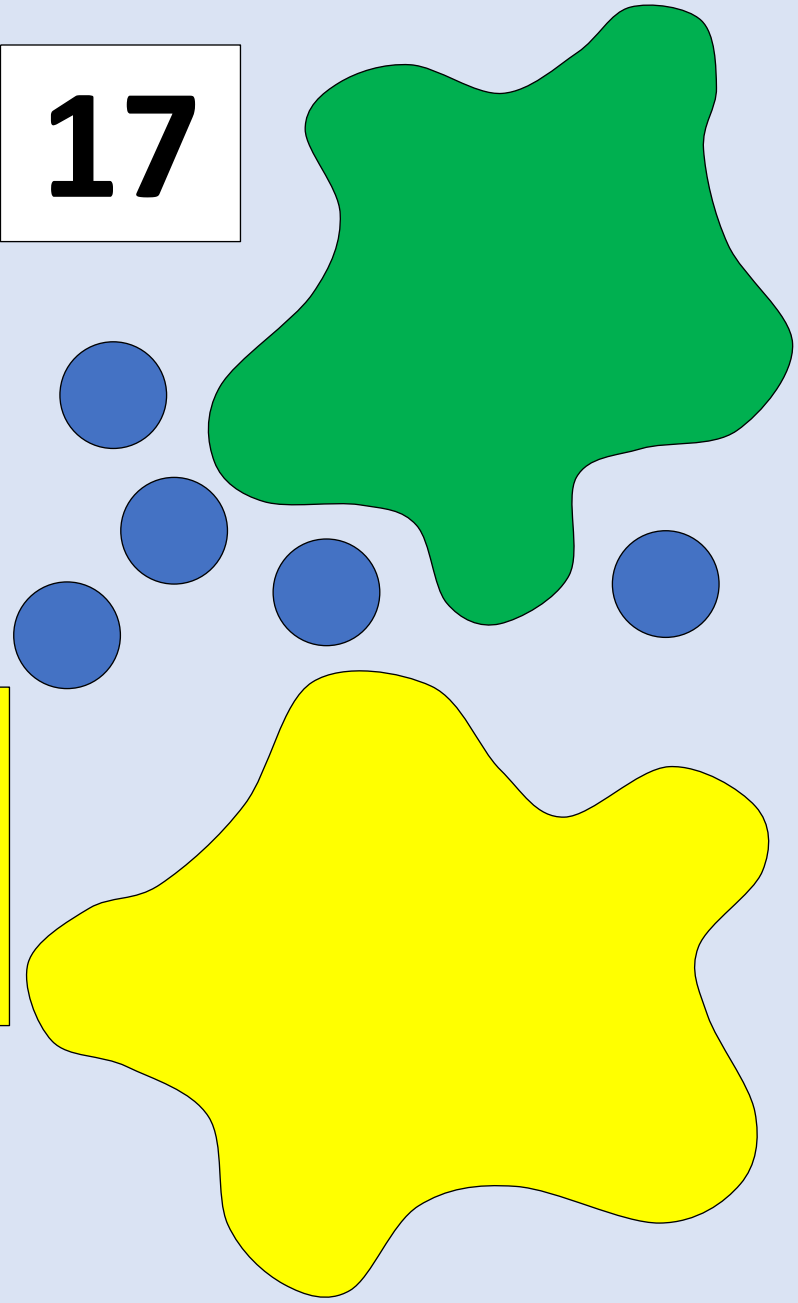
- You want students to begin hearing the various numbers that were distributed to classmates to activate their thinking and to begin visualizing the placement of the cards on the number line. Call on a student who is holding one of the cards to read the value on his or her card.
- Tell the students that we are trying to find the beginning endpoint. Does anyone have a value that is smaller than ___? (say the number that the first students called out)
- Once you find the smallest value, use that as the beginning endpoint. Have the student place it to the left on the number line.
- Repeat this process to find who is holding the greatest value.
- Does anyone have a number that is greater than ___?
- Once the greatest value is discovered, have the student place it on the number line.
- Ask the remaining students to place their numbers where they belong on the number line – remind them to be mindful of appropriate distances from the neighboring numbers.
- With your students, adjust the spacing as needed – be sure to discuss this important aspect.
- Ask: What do you notice?
- Allow for every observation with the hope that someone will notice that the numbers are equally spaced in value which means that they should be equally spaced on the number line.

For more Open Number Line Activities, visit http://www.MathSnack.blogspot.com

Day 175

SPLAT!

17



How many dots?

How many dots must be hiding?

How do you know?

How else could you know?

What can we learn from this Splat! activity?

Day 176

Choral Count Back by 10s

CHORAL COUNTING

SAY:

- Today we are going to counting by 10s… backwards!
- We will count all together and we will go nice and slow, so I can record our numbers.
- We will begin on the number 99.
- What will be the next number we say? Remember, we are counting backwards by 10s. (89)
- **When we finish counting and recording our numbers, we will look at the chart to find patterns we see**.

Patterns of Note:

- The numbers have a smaller value when we count backwards
- The tens place changes but the ones place stays the same with a 9

Day 176

Choral Count Back by 10s

What patterns do you notice?

99				

CHORAL COUNTING

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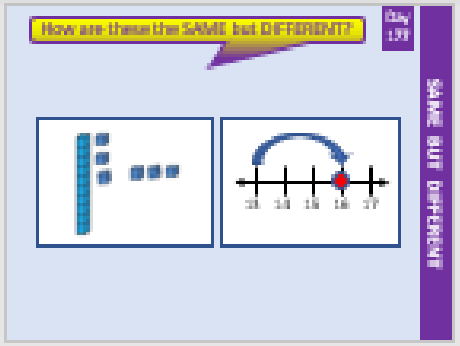
Use the NEXT SLIDE with students.

Here is are some possible responses. This list is not all-inclusive.
Additional ideas encouraged!

Day 177

- Students may simply recognize a component that makes them the “same” OR “different”
- Some students may state a same/different relationship and say that they are the “same because…. But different because….”



SAME:

- Both represent 16
- Both are models that can represent 13 + 3

DIFFERENT

- The first is represented in base ten blocks. The second is represented on a number line
- The first is only a model with no numbers. The second is a model and numbers.

SAME BUT DIFFERENT

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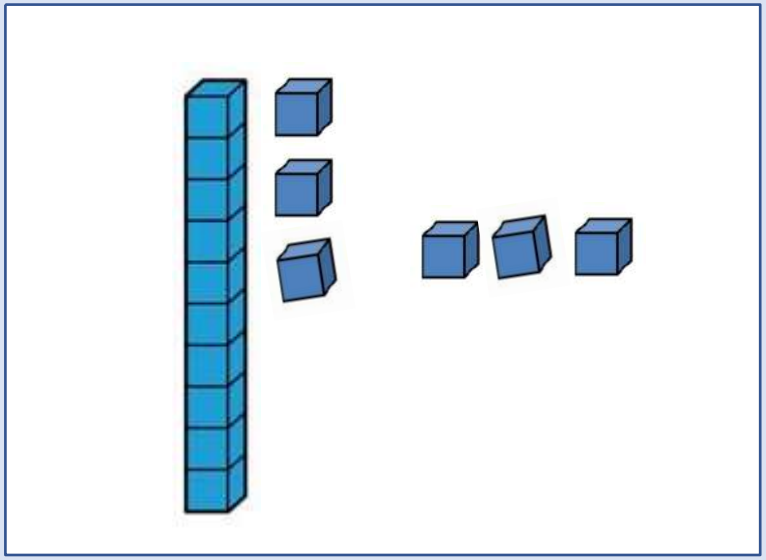
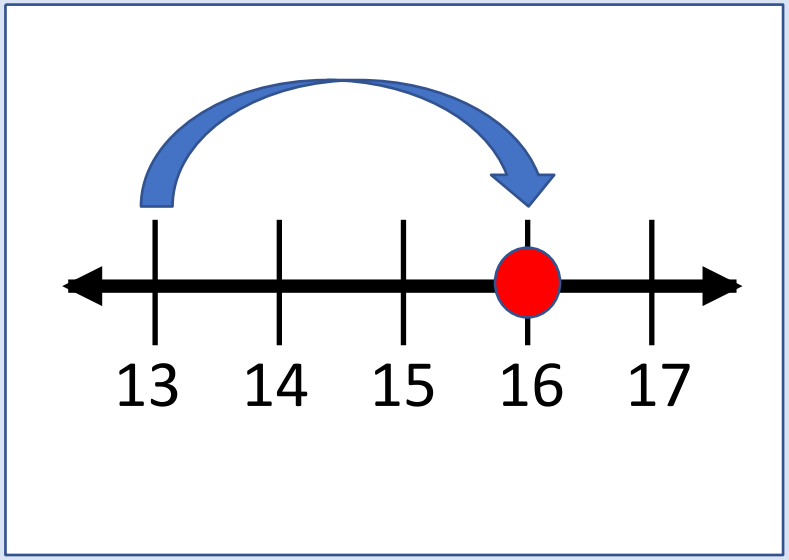
How are these the SAME but DIFFERENT?

Day 177





SAME BUT DIFFERENT

Day 178

Esti-Mystery

Estimation Activity with clues!

Students use clues to solve the estimation mystery.
After all of the clues are revealed, students will have enough information to determine if their initial estimate was correct.

Clues are revealed one at a time with time to discuss and refine original estimates after EACH clue is revealed.
No one should be stuck with their original estimate – encourage mindful refinements.

Students may benefit from using paper and pencil to work through possibilities or consider creating a class chart where possibilities are added and crossed off as each clue is revealed.

ESTIMATION

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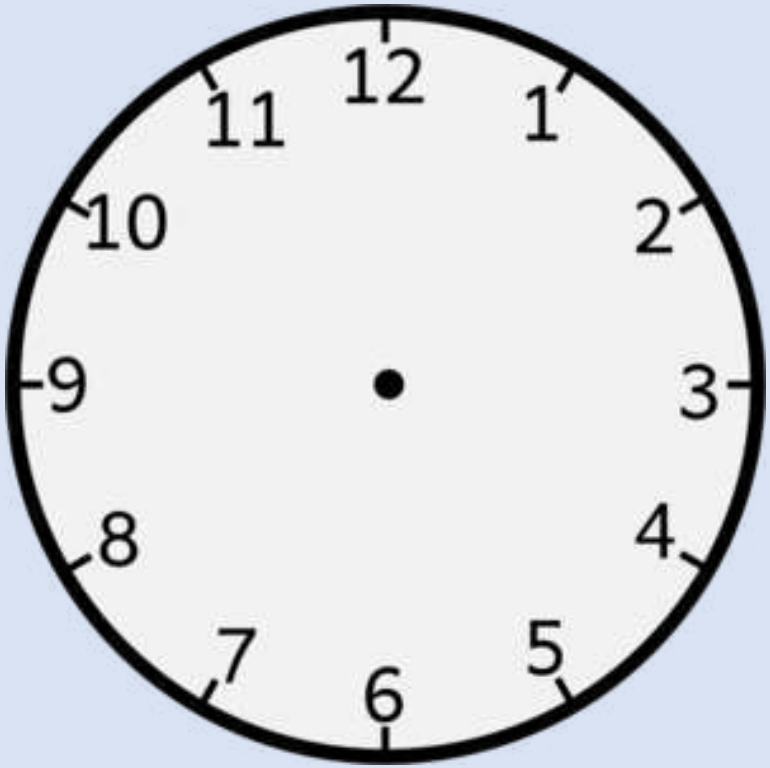
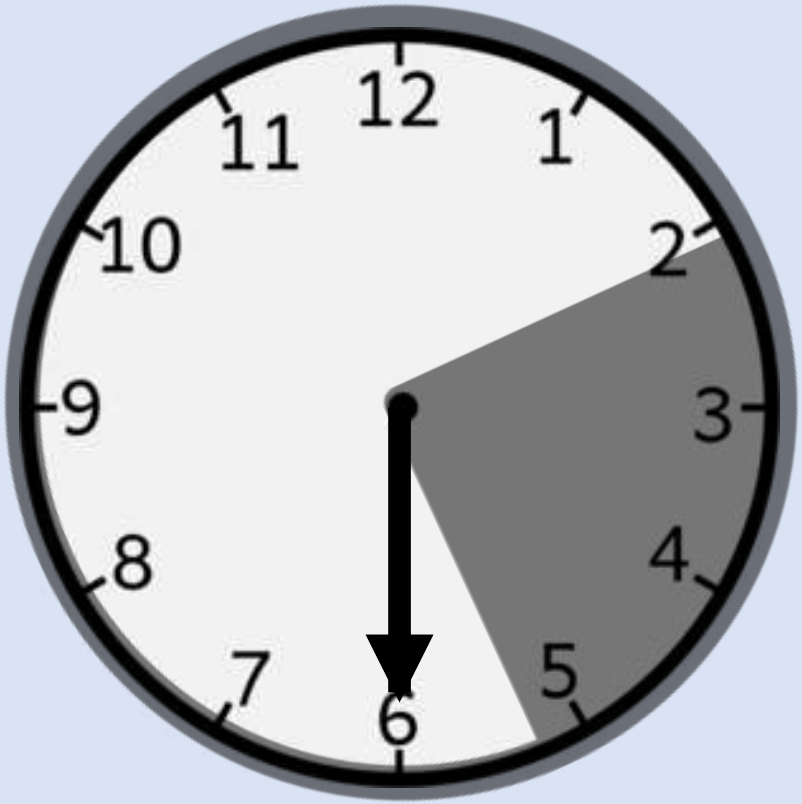


What time is it?

As the clues appear, use the information to narrow the possibilities to a smaller set. Then use estimation to determine which of the remaining answers is the most reasonable.



Clue #1

This hand is the MINUTE HAND.
What do we know about the time?

Clue #2

The hour hand is pointing somewhere in this gray area?

Clue #3

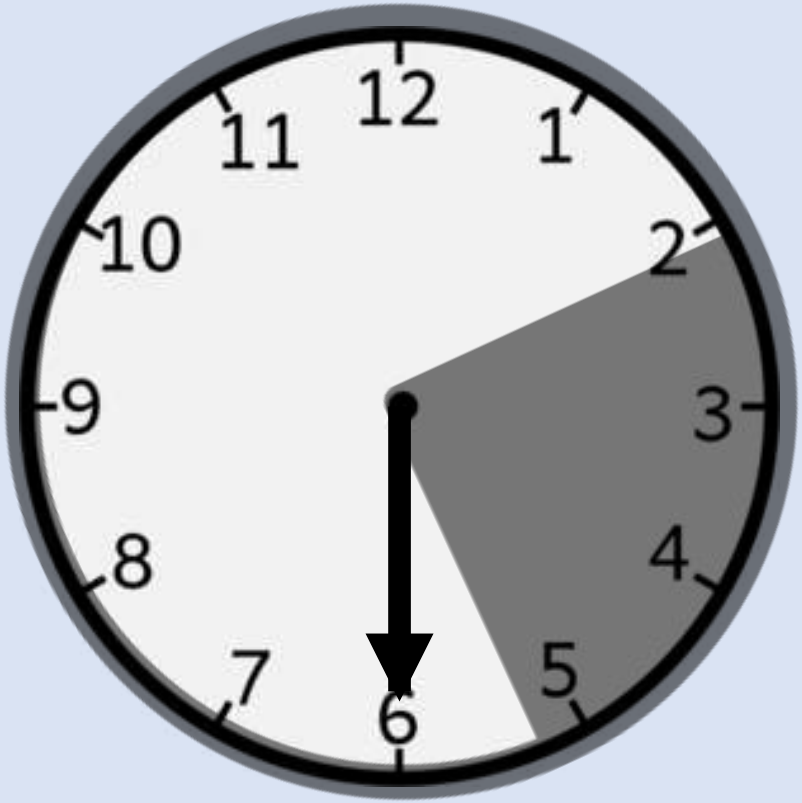
There are only THREE possible times. Do you know them?

Clue #4

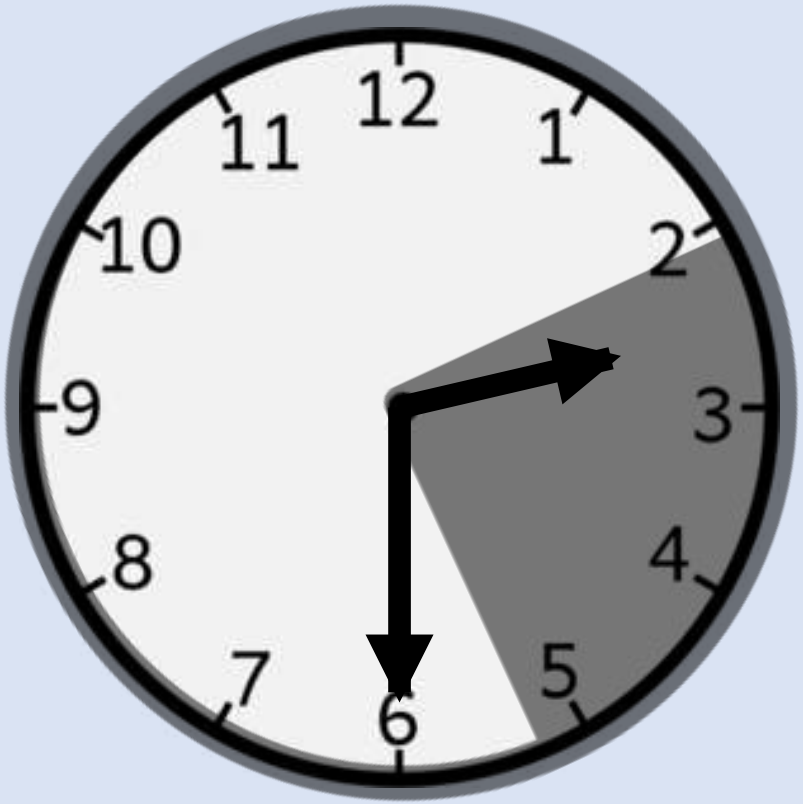
On a digital clock,
the number 2 will be here

Clue #5

There is only ONE possible answer.
Discuss why.



By combining the clues and estimation, you now have enough information to determine the answer.



2:30

Light the Future
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Day 179

An Interactive Open Number Line Task: **Definitely Not!**

OPEN NUMBER LINE

DEFINITELY NOT!

This activity is designed to help students to develop an understanding of NON-examples.

Place the 80 and 120 on the number line.

- Place a blank card randomly on the line (not the center).
- Ask the students to complete this statement: The blank card can NOT be the number _____because _____." Students could answer that the blank card is not 119 because 119 is closer 120. Students could respond that the blank card is not 100 because 100 is halfway between 80 and 120. Responses will vary depending on where the teacher places the blank card.

For more Open Number Line Activities, visit http://www.MathSnack.blogspot.com

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Day 180

11

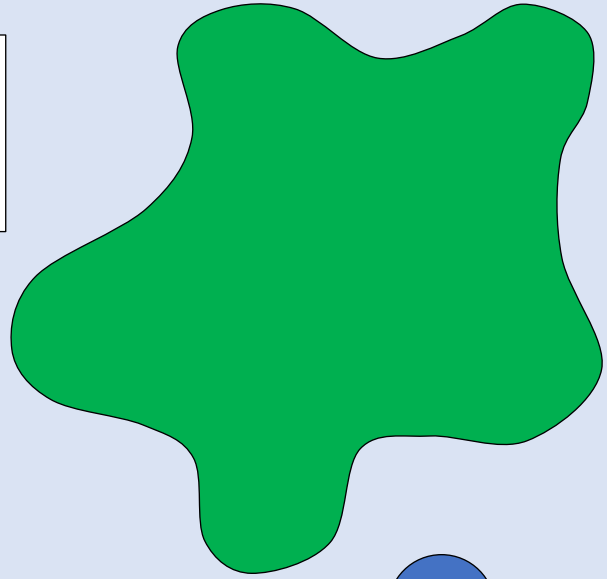
How many blue dots do you see?

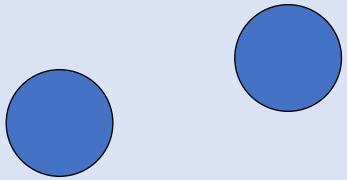
hese splats are different colors. When splats are different colors they must be covering different

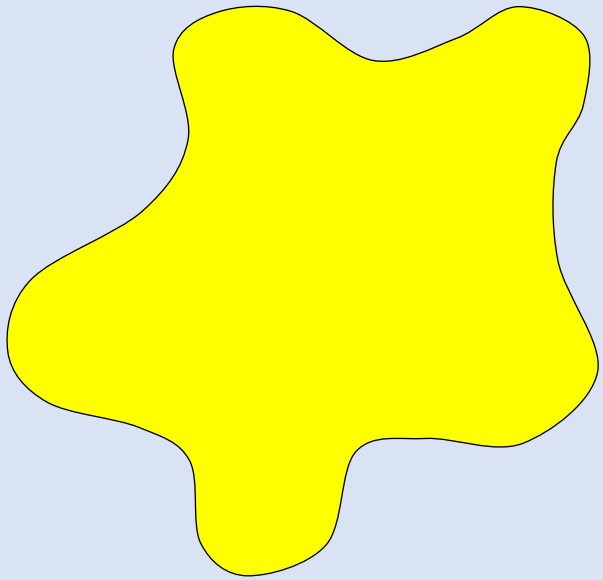
How many dots could be under the green splat? How many could be under the yellow splat? What re possible?

Let's look under one splat to see how many dots are there.

nder the other splat?







SPLAT!

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