180 Days of
Number Sense Routines
Grade 2
Days 41-60

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.

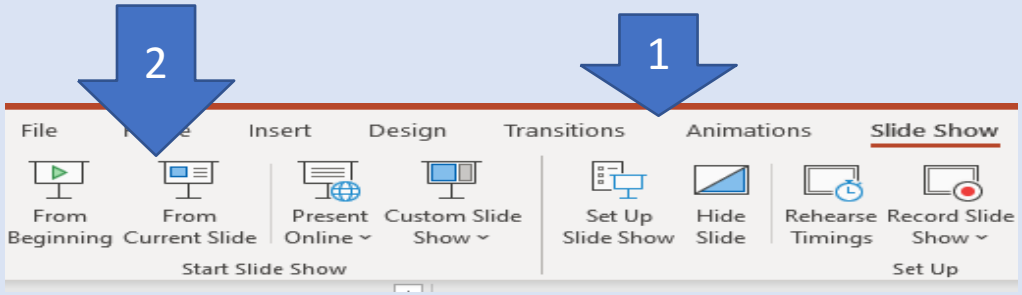
WHAT ARE THE CCPS IMPLEMENTATION EXPECTATIONS? Number sense routines have been developed for all 180 instructional days in grades 1-5. These routines are to be used every day, including early dismissal, late arrival, and field trip days. Because the routines do not require a specific order, it is permissible to trade routines among days within the week 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.

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 OER materials. We have made our work available in Open Educational Resources so that others may benefit as we have from the collaboration of other educators. 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
- *As Close As It Gets* https://www.mathisfigureoutable.com/ascloseasitgets by Pam Harris

Skipcount by 10s

Day 41

BEGIN WITH NUMBER: 17

17	27	37	47	57
67	77	87	97	107
117	127	137	147	157
167	177	187	197	207
217	227	237…		

CHORAL COUNT with students. As students count, chart the numbers as shown above on the chalkboard, chart paper, or SmartBoard. Encourage students to count (1) together, (2) slowly, and (3) to look for the emerging patterns as you chart the counted numbers.

Write 5 numbers across each row. Be SURE to line up the numbers in the columns so patterns become more evident. Notice that the patterns become more obvious the farther you count -- count and chart at least 5 rows as shown in the model above.

ASK: **What patterns do you notice were created when we started on 7 and skip counted by 10s?**

Possible Answers: (be sure to discuss WHY these are happening – it's not just chance)

- ALL of the numbers have a 7 in the ones place (discuss that when we count by 10s, the ones value remains unaffected)
- The number down each column have the same number in the tens place value
- All of the numbers in each row have the same number in the hundreds place value
- The numbers are getting larger in value
- The tens place value increases by 1 each time

- ASK: **Are you able to PREDICT (without counting) what number will be under 237 on this chart?** (287) **How did you determine it would be the number 287?**

TIP: Consider hanging the finished chart in the classroom for a week or so after the routine for students to continue discovering patterns among the numbers.

CHORAL COUNTING

2.MD.A.2

Day 42

Using the DECIDE & DEFEND routine

- **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

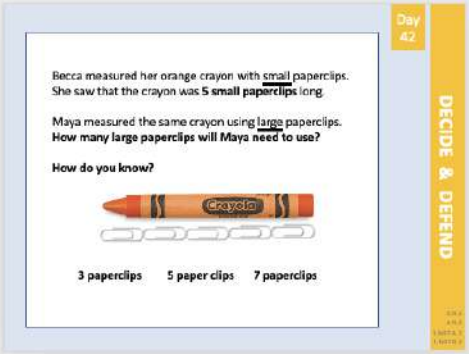
DECIDE & DEFEND

Use the NEXT SLIDE with students.

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

Day 42

DECIDE & DEFEND



Remember to work through the problem systematically and check off each step as you facilitate student thinking.

SOLUTION: Of the choices given, **the only one that is reasonable is 3 paperclips**.
Because Maya's paperclips are larger than Becca's, she will need fewer paperclips to measure the same crayon.

Partners work together to understand the question. Begin by directing Numbered Heads to read, listen, and summarize as shown below.
Understanding the question (not solving it) will be a VERY important first step before beginning this task – be sure to give enough time for students to understand what is being asked.

Ask #1 to read the question aloud to their partner
- Then ask #2 to summarize the problem to their partner (not solve it, just summarize the task)

Partners should now begin tackling the task to calculate a solution.

Day 42

DECIDE & DEFEND

Becca measured her orange crayon with small paperclips. She saw that the crayon was **5 small paperclips** long.

Maya measured the same crayon using large paperclips.
How many large paperclips will Maya need to use?

How do you know?

3 paperclips **5 paper clips** **7 paperclips**

2.R.1
2.R.3
1.NBT.A.2
1.NBT.B.3

Day 42

Reflect on Learning

- A new math idea I learned today is…
- Next time I will…

DECIDE & DEFEND

Day 43

Estimation Activity

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

PROMPT: **How many marbles are in the cup?**

ESTIMATION

2.R.4
1.OA.C.6

The Reveal

37 marbles

The Reveal

The Reveal

The Reveal

Day 44

5 + 7 + 5
2 + 9 + 1
6 + 4 + 8
9 + 7 + 3 + 1

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. Remember, students will come with a wide variety of strategies. Allow student sharing of these strategies and work toward determining which of the ways were most efficient and brain-friendly.

DURING

Making Friendly Numbers

The Talk is designed to help students build on what they know about adding numbers to create friendly numbers (in this case Making Friendly Numbers – Making 10s) and then to use those friendly to quickly and accurately add the third addend.

Students will come with a range of strategies to solve. When a student mentions that s/he saw that 5 + 5 made ten which made the expression easier to solve, focus the discussion to this effective method of adding the 3 addends. Now that you have discussed this strategy, specifically encourage students to use this strategy of making friendly numbers for the next expression in the string.

Example: 5 + 7 + 5
(5 + 5) + 7
10 + 7
17

Example: 9 + 7 + 3 + 1
(9 + 1) + (7 + 3)
10 +10
20

AFTER

After doing the Number Talk String, be sure to highlight this strategy and encourage students to "look for" places they can use it throughout the day.

NUMBER TALK

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Day 44

NUMBER TALK

5 + 7 + 5

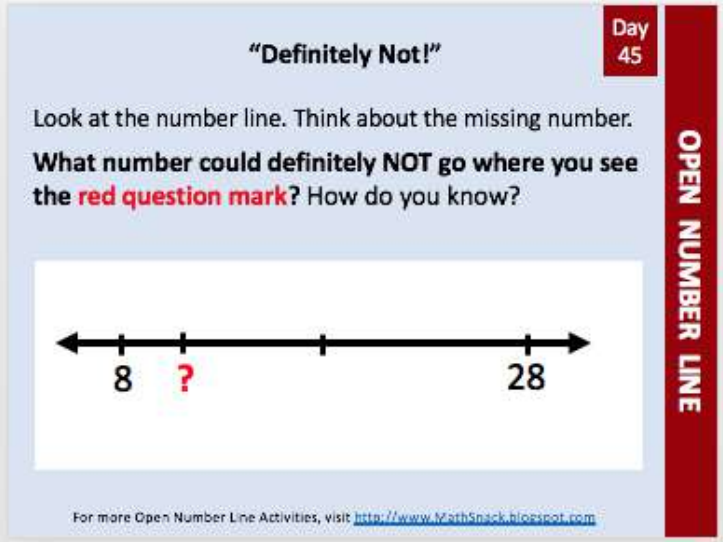
2.R.3
1.NBT.A.1

Use the NEXT SLIDE with students.

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

Day 45

OPEN NUMBER LINE



SAY: **Let's use our Number Sense about number lines to do a number activity called "Definitely Not!"**

In this game, students will likely give you "crazy" solutions (like the ? is definitely not one million!) – all solutions are accepted WITH the appropriate reasoning.

- For example: The ? is definitely not 1 hundred because 100 come after 28 and the ? shown on this number line comes before 28.
- The ? is definitely not a number that is less than 8 because the ? is to the right of 8 which means it must have a value greater than 8.
- Students may determine that the midpoint shown is 18 [The difference between 8 and 28 is 20. Half the distance is 10, making the midpoint 18 (8+10)]. Because the midpoint is 18, students should reason that the ? is a number that is greater than 8 but less than 18 AND it will be a number that is closer to 8.
- If we push students to think even more deeply, we may be able to have them calculate the midpoint between 8 and 18 to be 13 (difference of 10. divide 10 in half and add the 5 to 8 for a total of 13). This would mean that the ? is greater than 8 but less than 13, so it must be (9, 10, 11, or 12).

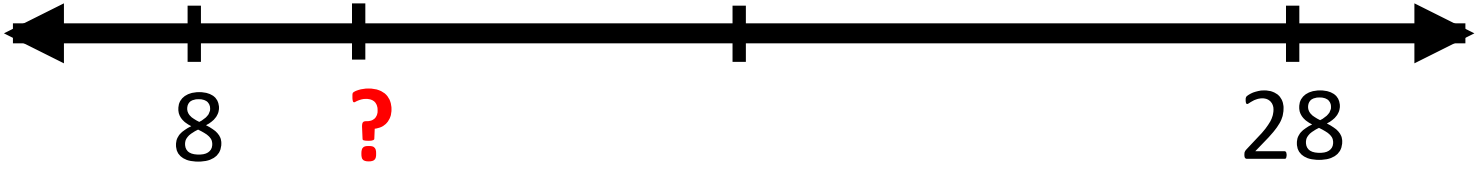
For more Open Number Line Activities, visit http://www.MathSnack.blogspot.com

Day 45

"Definitely Not!"

Look at the number line. Think about the missing number.

What number could definitely NOT go where you see the red question mark? How do you know?



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

OPEN NUMBER LINE

2.OA.B.2

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 (or 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.
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. Ask students to 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 how describe the shortcut counting strategy they used. Give time for partner discussions. Walk around 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.
    - Use your notes to select different students with different approaches.
    - The student explains his/her shortcut as the teacher **gestures** over the image.
    - 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.
    - Repeat the process using different student-generated shortcut strategies.
10. End by asking students to explain what was "mathematically important"

Day 46

QUICK COUNT

What do you NOTICE?

Day 46

QUICK COUNT

What did you NOTICE?

Day 46

QUICK COUNT

How many do you see?

What counting shortcut did you use?

I noticed ____ so I _____

(They) noticed ____ so they___

Day 46

QUICK COUNT

Day 46

Reflect

What was mathematically important?

QUICK COUNT

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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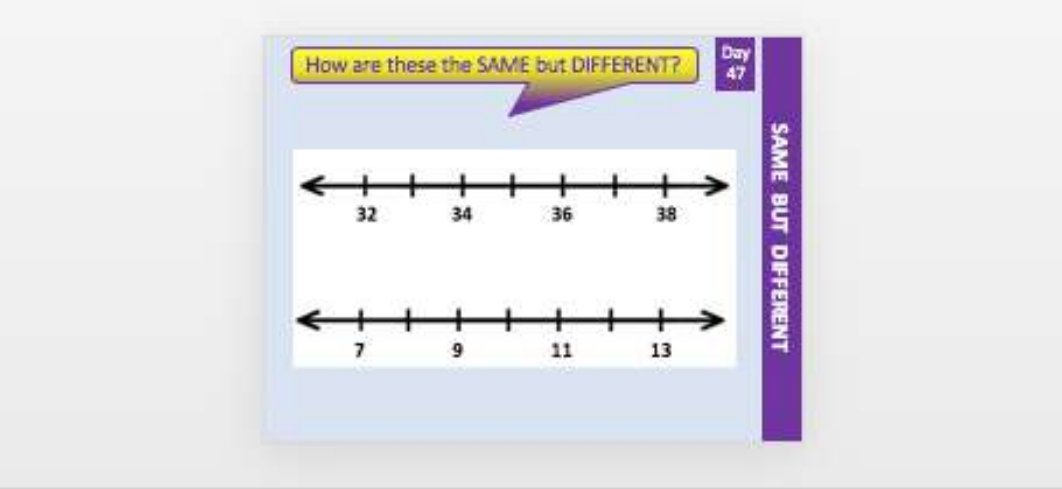
Day 47

Use the NEXT SLIDE with students.

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

- 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….”



Possible Responses

SAME:

- Equal intervals (physically) – the spacing is the same between hash marks
- Equal intervals (numerically) - both skip-count by 2s
- Both have numbers missing
- Both show a total distance of 6 units

DIFFERENT:

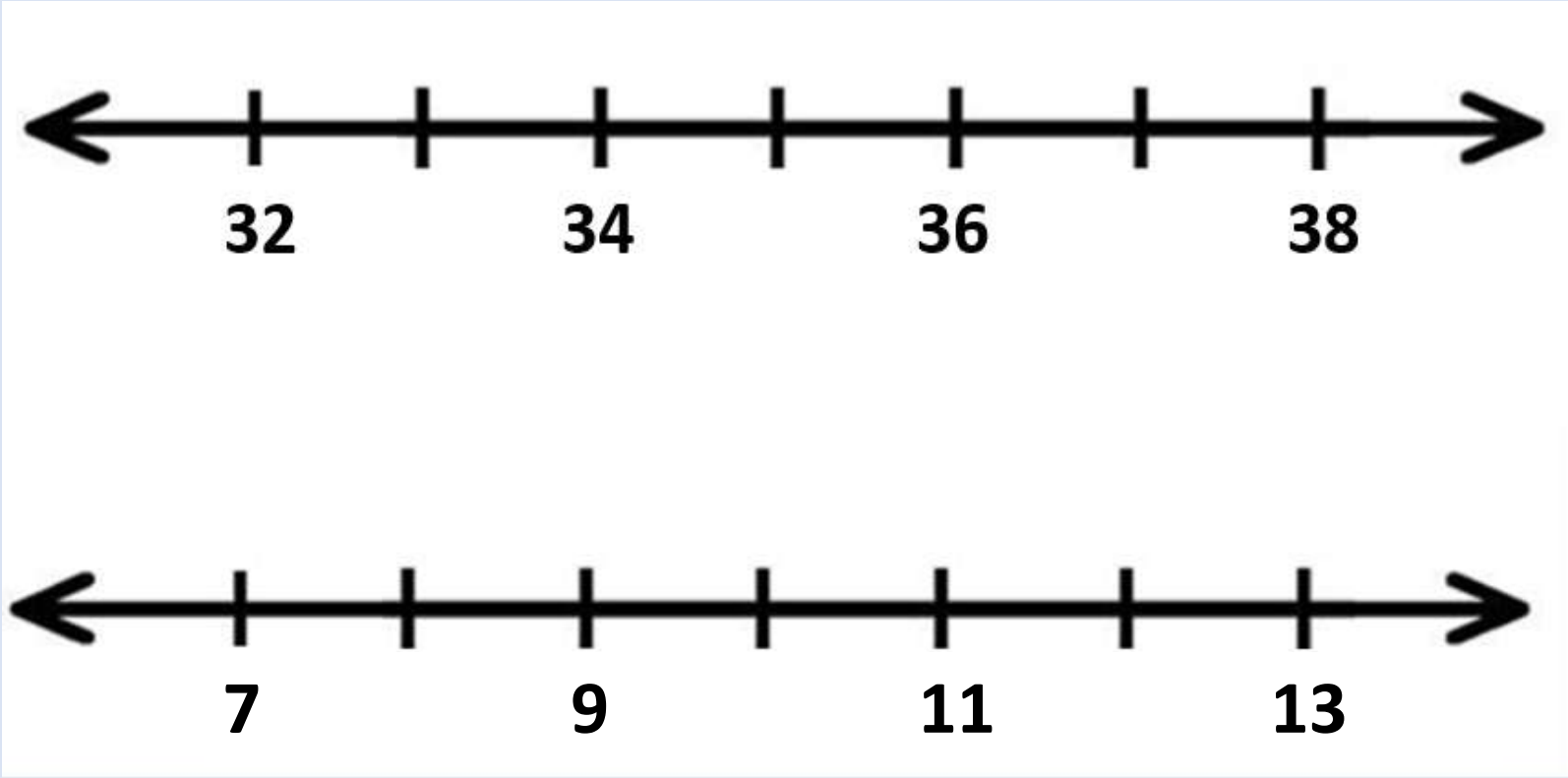
- Different starting/ending point
- Top is even numbers. Bottom numbers are odd.
- Bottom has a single-digit number

SAME BUT DIFFERENT

CALVERT COUNTY PUBLIC SCHOOLS

How are these the SAME but DIFFERENT?

Day 47



SAME BUT DIFFERENT

2.MD.B.6
1.OA.C.5

Day 48

SPLAT!

Directions for SPLAT! routines

SPLAT! is a number sense activity that was developed by an educator in Oregon. There are dozens of SPLAT! activities including SPLAT! within ten, multi-SPLAT!, colored SPLAT!, and fraction SPLAT!

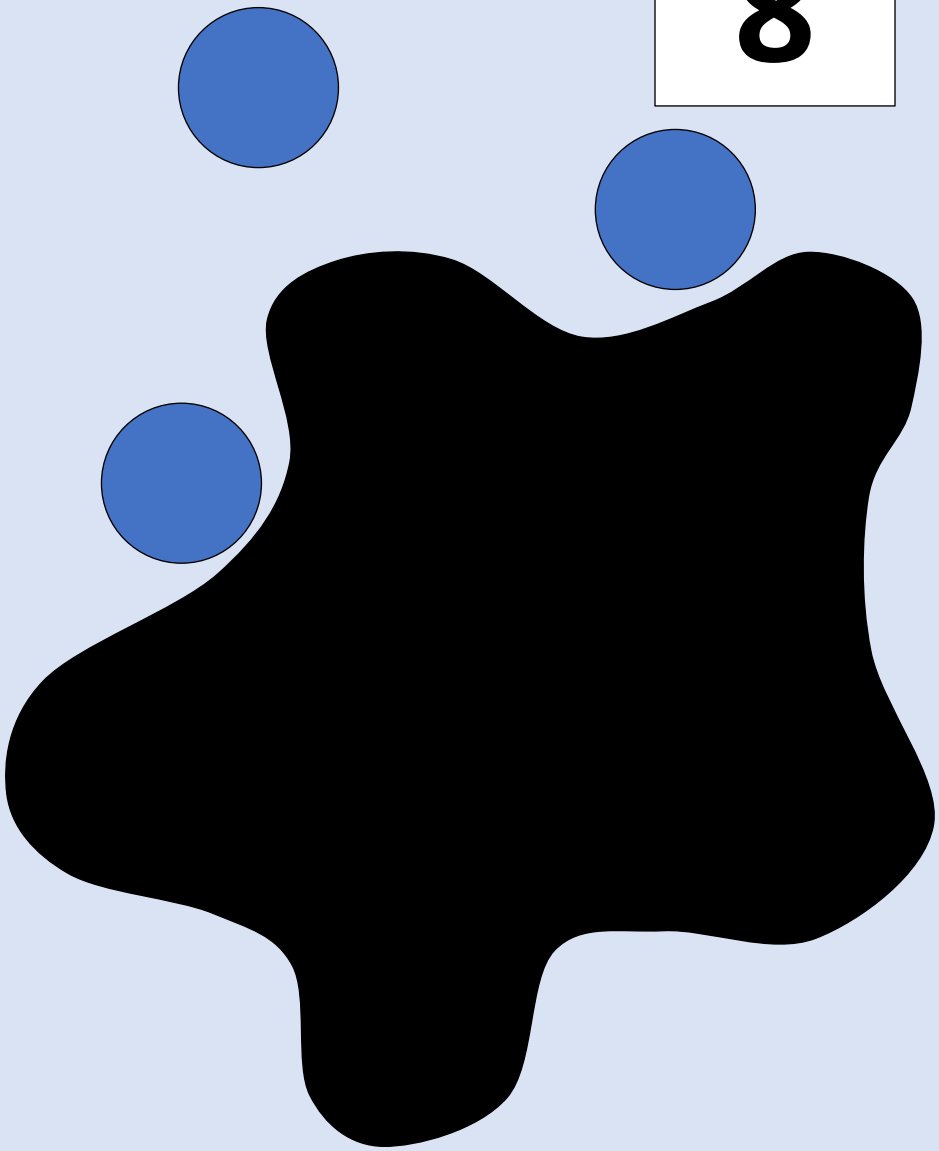
In order for SPLAT! to work correctly, you will want to keep this activity in PowerPoint format.

To learn more about Steve Wyborney's Splat activity, click this link
http://www.stevewyborney.com/?p=893

Day 48

SPLAT!

8



How many blue shapes do you

Splat!

How many shapes are under the splat? How do

How else could

Let's look under the splat to see how many shapes

What can we learn from this picture?

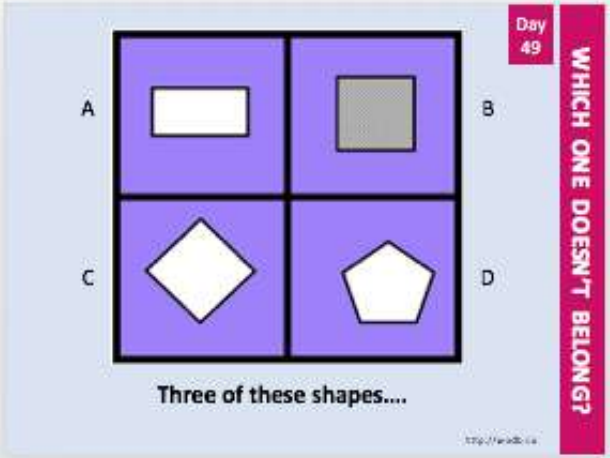
2.R.1
2.R.3
1.OA.C.6

Use the NEXT SLIDE with students.

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

Day 49

WHICH ONE DOESN'T BELONG?

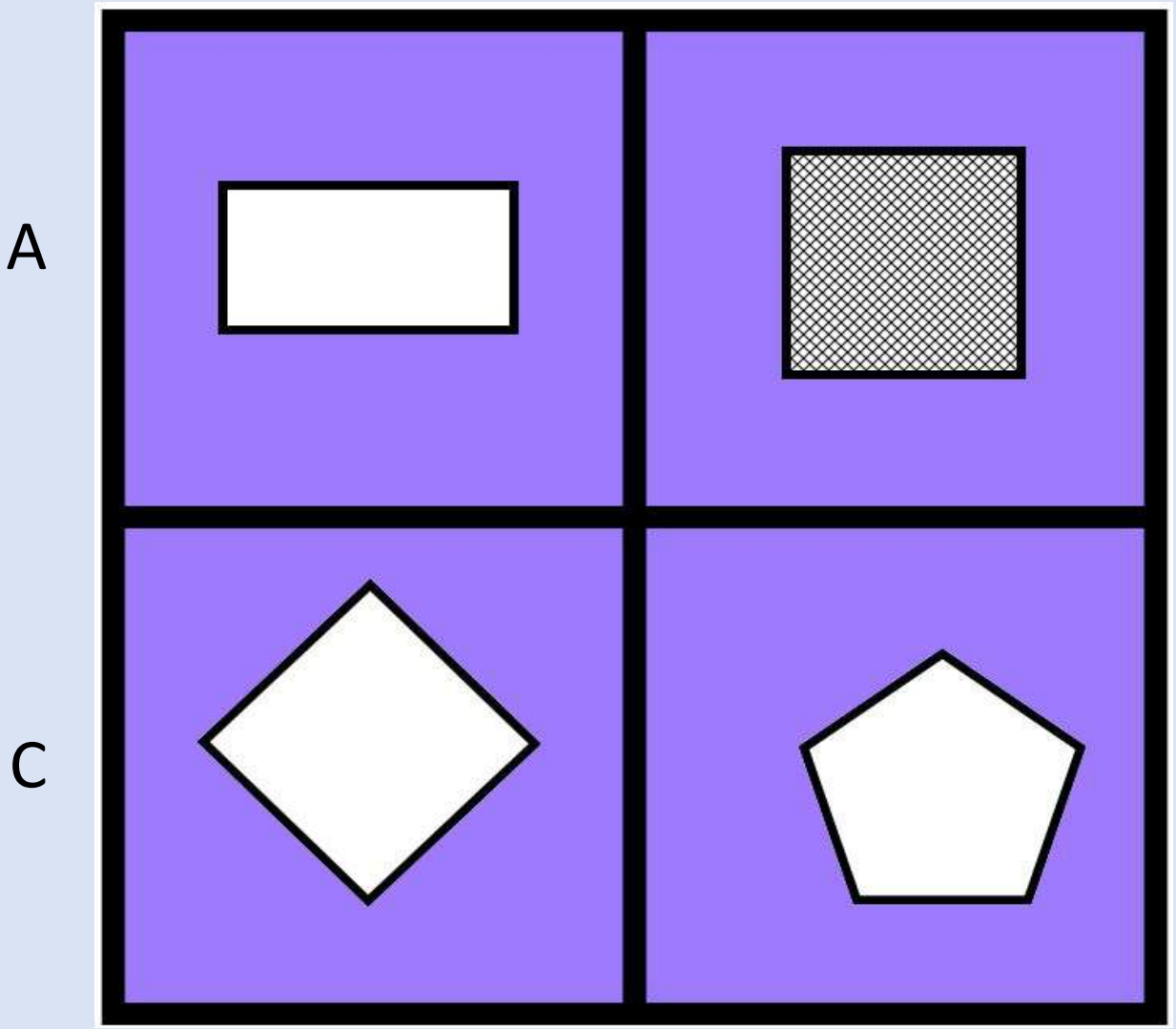


Sample Answers:

- Three of the shapes are made from sides that are equal lengths. All of the sides on Shape A are not of equal length.
- Three of the shapes are all white. Shape B is not all white, it is shaded (hatch-marked).
- Three of the shapes are oriented with the bottom being flat (parallel to the ground). Shape C is not oriented with a flat bottom side.
- Three of the shapes have exactly four sides. Shape D does not have 4 sides, it has 5 sides.

Day 49

WHICH ONE DOESN'T BELONG?



Three of these shapes….

Count back by 2s

Day 50

BEGIN WITH NUMBER: 64

COUNTING RULE: count back by 2s / subtract 2

		64	62	60
58	56	54	52	50
48	46	44	42	40
38	36	34	32	30
28	26	24	22	20
18	16	14	12	10
8	6			

- **Be sure to chart the numbers AS SHOWN – note that the 64 is not at the top of the first column; it is at the top of the 3rd column**
- **Chart several rows. Discuss the emerging patterns.**
- **What number patterns do you notice when we charted our counting numbers?**
  - The ones place is the same as you look down each column (the last column, for example, all end with the digit zero)
  - The tens place is the same as you look across each row
  - All of the numbers are even numbers
  - ASK: **What if we started our count at 63, would all the numbers still be even numbers when we count back by 2?)**
- **Without counting back –** just by looking at the patterns – think about the number value that would written above the 62 if we had started with a greater value? (72)
- **How does the patterns of the numbers help us to know it would be 72 without actually counting back? (discuss the patterns)**

CHORAL COUNTING

2.R.3
1.NBT.A.1
1.OA.C.5

Day 51

Which answer is

As Close as it Gets?

Explain that NONE of the answers shown are the exact solution.

- Students should use **mathematical reasoning** to select the answer that is **closest** to the actual answer. **Discourage complex calculations, encourage estimation and reasoning.**
- Students are expected to **explain the reasoning they used** to select the answer that they think is closest to the actual answer.

Possible Reasoning: *48 + 10 = 58, so 48 + 9 will be 1 less than 58 since 9 is 1 less than 10, so 58 is the closest answer.*

ESTIMATION

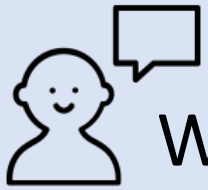
Day 51

Which answer is

As Close as it Gets?

48 + 9

49	58	67



What mathematical reasoning did you use to decide on the closest answer?

ESTIMATION

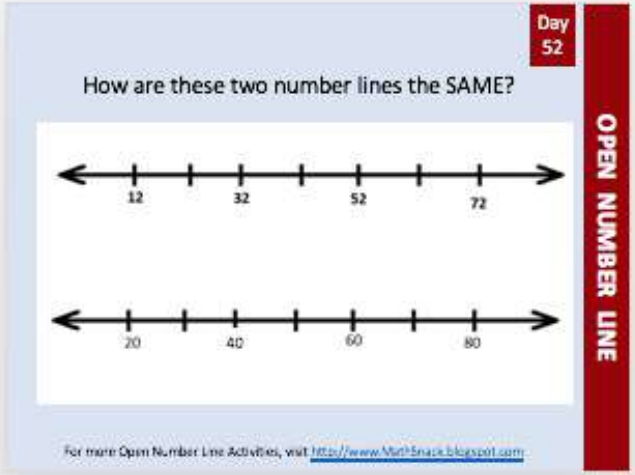
2.R.3
1.NBT.C.5

Use the NEXT SLIDE with students.

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

Day 52

OPEN NUMBER LINE



Give plenty of THINK TIME. Encourage students to discuss this with partners before discussing as a whole group. Be patient ☺

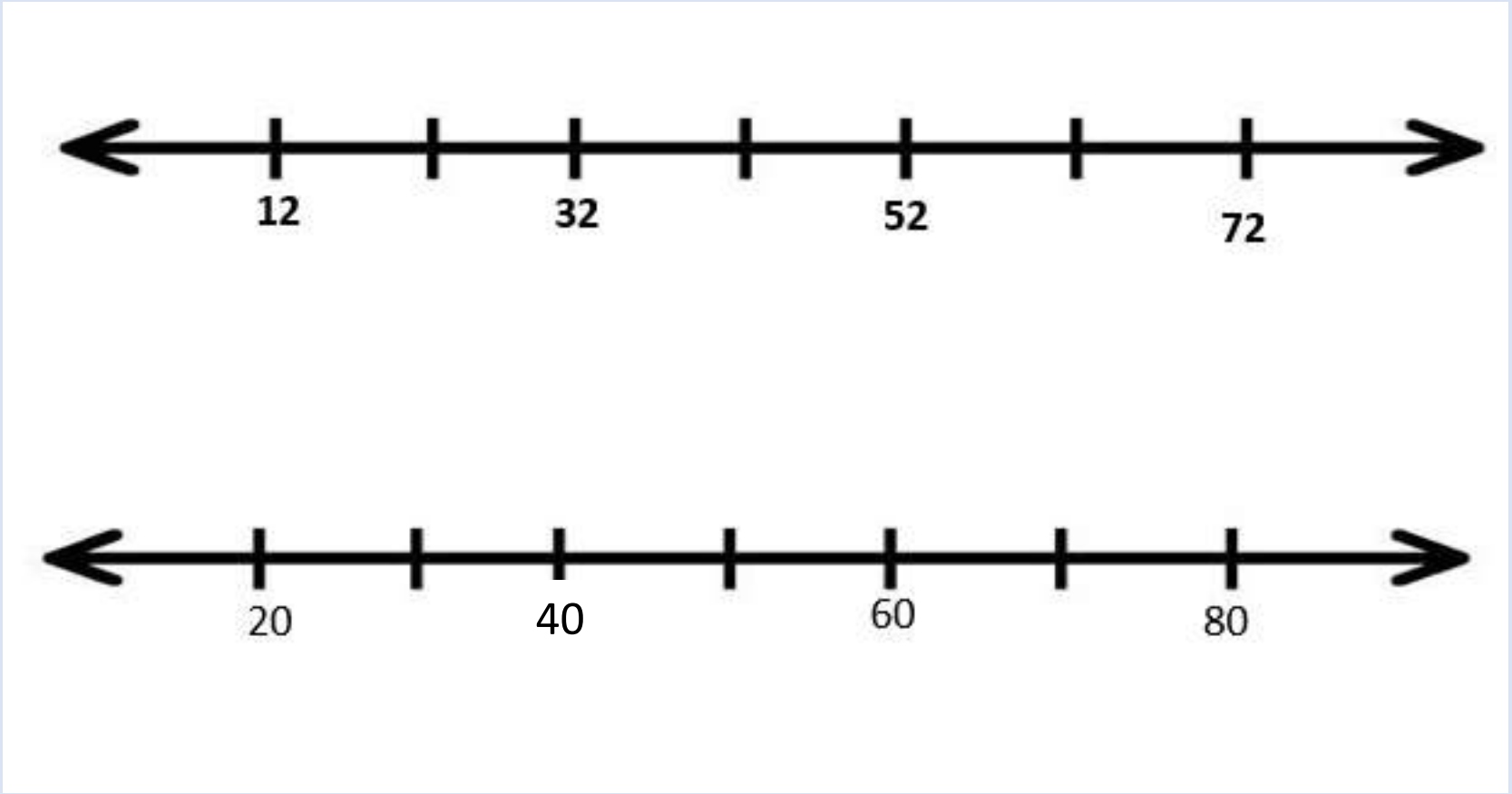
How are these two number lines the same?

- Both have a difference of 60 from the two given endpoints.
- All of the written numbers are even numbers on both number lines.
- The written numbers are both INTERVALS of 20
- The hash marks each represent intervals of 10
- Both show a PART of the number line with numbers that are less than 100

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

Day 52

How are these two number lines the SAME?



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OPEN NUMBER LINE

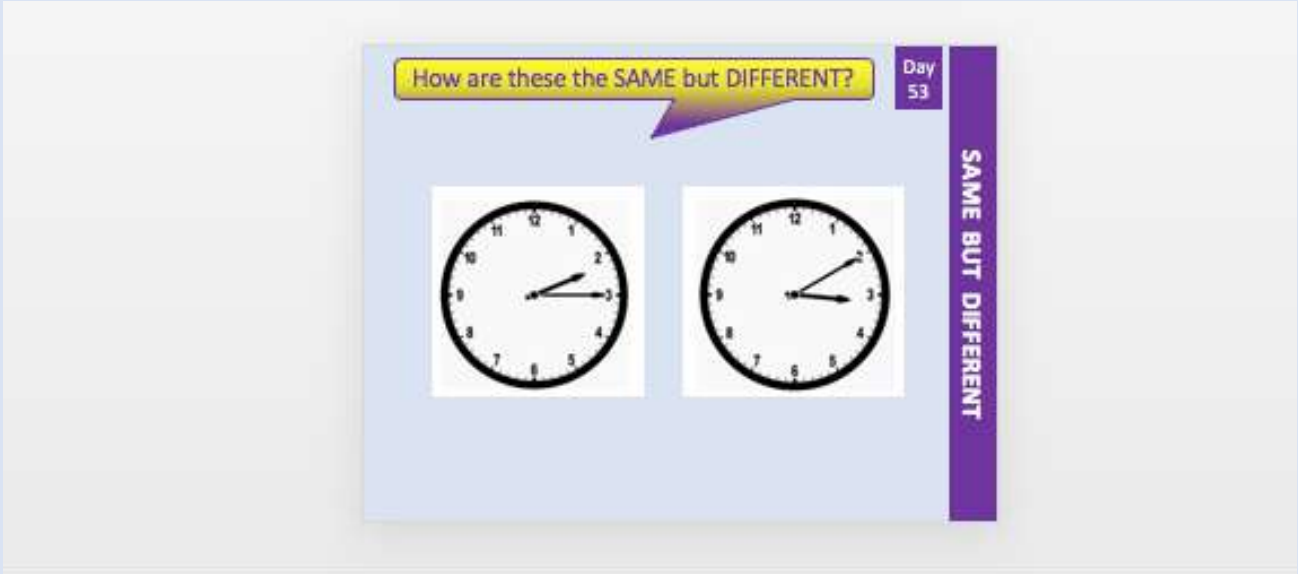
2.NBT.A.2

Day 53

Use the NEXT SLIDE with students.

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

- 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….”



POSSIBLE RESPONSES

The hands are pointing to (near) the 2 and the 3 on both clocks.
The minute hand (long hand) is on the 3 for the first clock and pointing to 2 on the second clock.
The hour hand (short hand) is pointing to 2 on the first clock and 3 on the second clock.
The first clock shows 2:15 but the second clock shows 3:10
The hand is slightly past the 2 for 2:15 and the hand is slightly past the 3 for 3:10.
They tell different times during the day.

SAME BUT DIFFERENT

How are these the SAME but DIFFERENT?

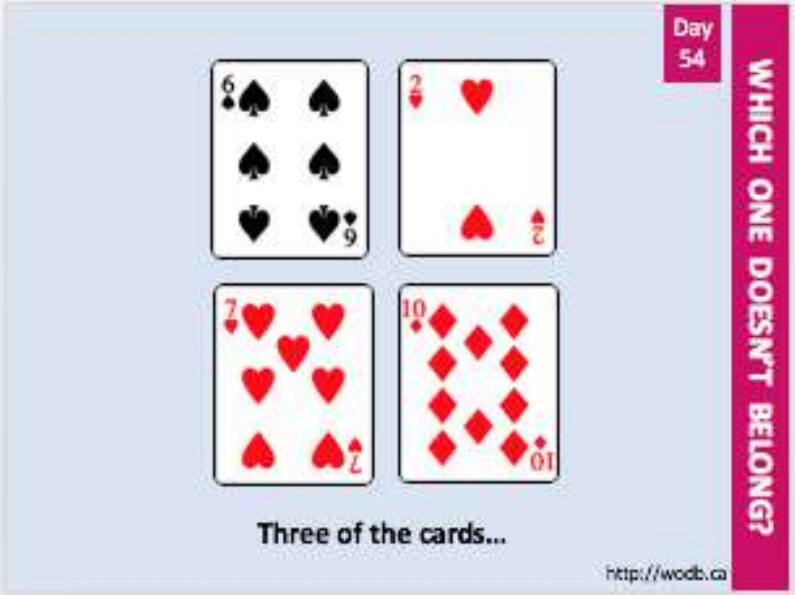
Day 53

SAME BUT DIFFERENT

2.MD.C.7
2.NBT.A.2

Use the NEXT SLIDE with students.

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



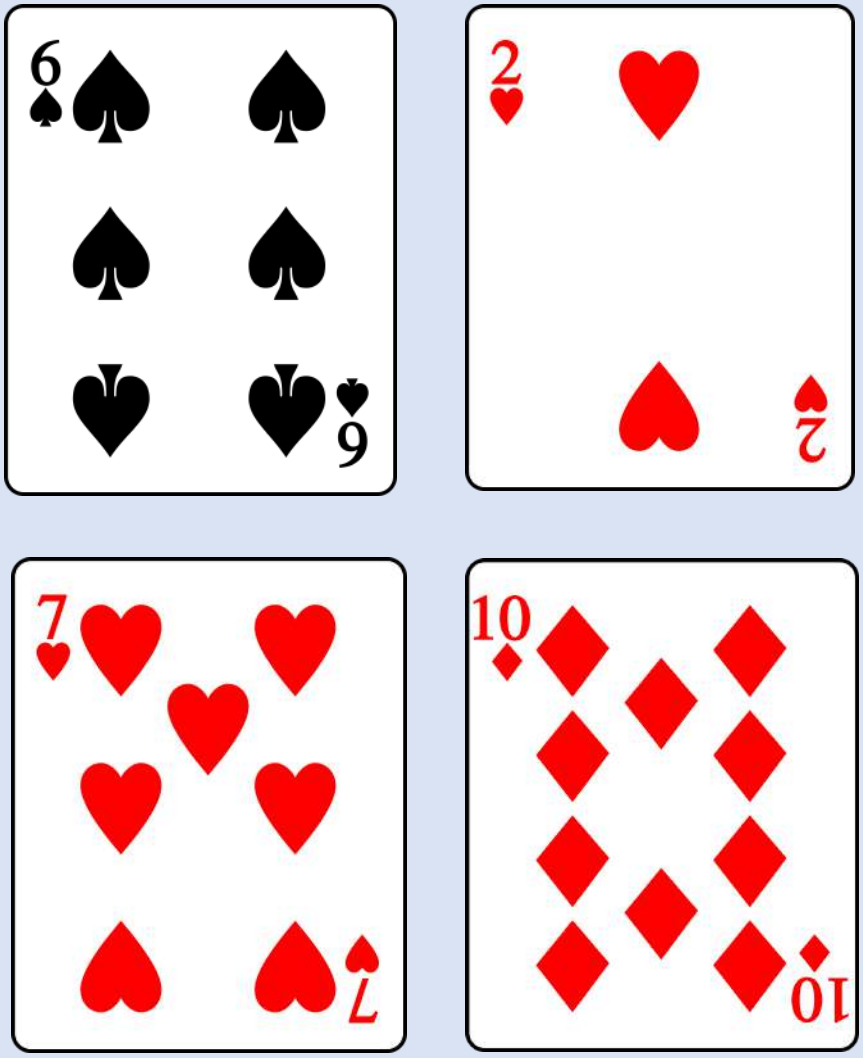
Sample Answers:

- Three of the cards have the numbers written in red. The 6 card is not written in red.
- Three of the cards have numbers that are EVEN numbers. The 7 card is not an even number.
- Three of the cards are single digit numbers. The 10 is not a single digit number.
- Three of the cards are greater than 5. The 2 card is not greater than 5.

Day 54
WHICH ONE DOESN'T BELONG?

Day 54

WHICH ONE DOESN'T BELONG?



Three of the cards…

2.OA.C.3

Day 55

DECIDE & DEFEND

Using the DECIDE & DEFEND routine

- **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.

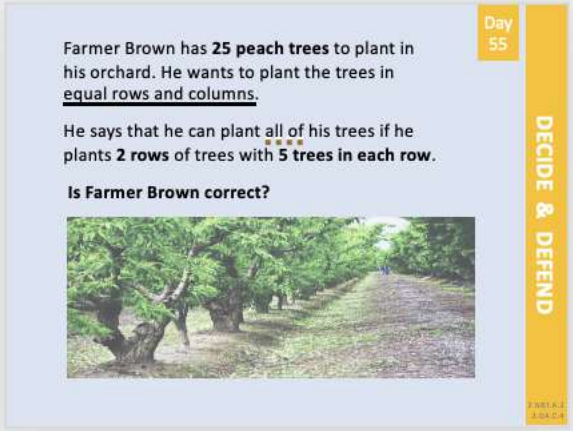
NOTE: This is the CCPS adaptation of the original Decide and Defend protocol

Use the NEXT SLIDE with students.

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

Day 55

DECIDE & DEFEND



Students may confuse the 2 and 5 in the number 25 with 2 rows of 5 since the numbers are the same. Possible strategies include skip-counting by 5s and/or considering the place value of 2 and 5 and considering the value of those digits.
This activity is intended to be foundational for multiplicative thinking students will do in 3rd grade. In 2nd grade, the focus is on reasoning and repeated addition (not multiplication).

Day 55

DECIDE & DEFEND

Farmer Brown has **25 peach trees** to plant in his orchard. He wants to plant the trees in equal rows and columns.

He says that he can plant all of his trees if he plants **2 rows** of trees with **5 trees in each row**.

Is Farmer Brown correct?

2.NBT.A.2
2.OA.C.4

Day 55

Reflect on Learning

- What was mathematically important in the problem?
- What new math idea did you learn today?

DECIDE & DEFEND

15 – 9
46 – 9
84 – 9
27 – 9

Day 56

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. Remember, students will come with a wide variety of strategies. Allow student sharing of these strategies and work toward determining which of the ways were most efficient and brain-friendly.

DURING

Adjusting Values to Make Friendly Numbers

The Talk is designed to help students build on what they know about subtracting tens to create friendly numbers and then to use those friendly to quickly and accurately subtract.

Students will come with a range of strategies to solve. When a student mentions that s/he noticed that 15 – 9 was close to 15 - 10 to equal 5, so we adjust to make 19 – 9 = 6, focus the discussion to this effective method of adjusting the 9 to a 10 and then adjusting the difference at the end to reflect the original expression. Now that you have discussed this strategy, specifically encourage students to use this strategy of adjusting numbers for the next expression in the string.

Example: 15 – 9
think 15 – 10 = 5
so 15 – 9 = 6 since we are subtracting one less than our adjusted expression

Example: 46 – 9
think 46 – 10 = 36
so 46 – 9 = 37 (we are not really being asked to subtract 10, we are only subtracting 9)

AFTER

After doing the Number Talk String, be sure to highlight this strategy and encourage students to "look for" places they can use it throughout the day.

CALVERT COUNTY PUBLIC SCHOOLS

Day 56

15 – 9

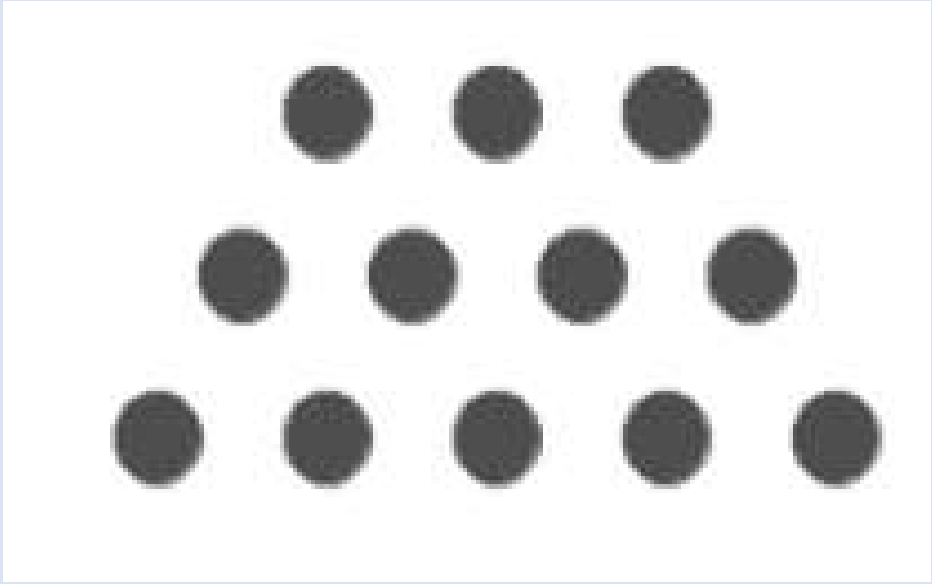
46 – 9

NUMBER TALK

2.R.4
2.M.4
1.NBT.C.5

Day
57

QUICK COUNT



What do you NOTICE?

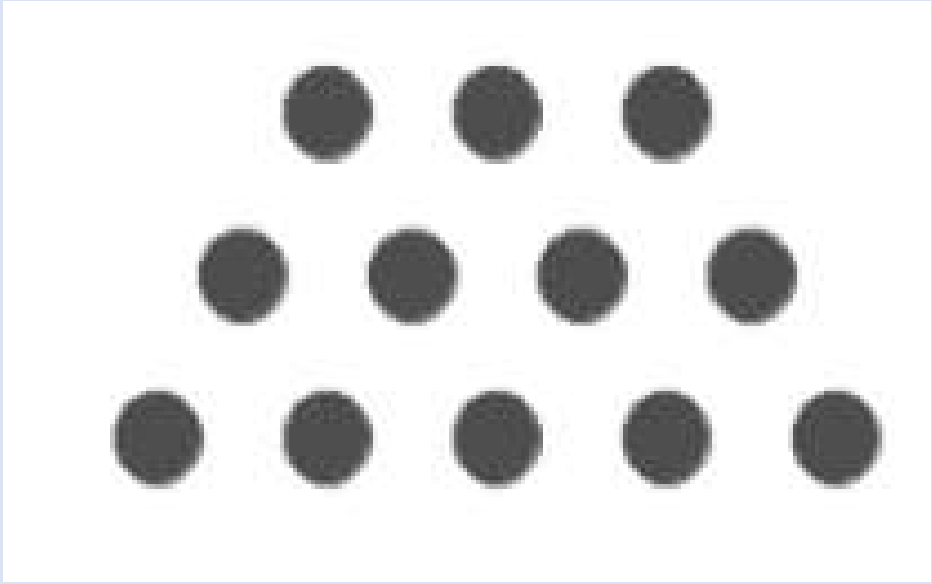
Day 57

QUICK COUNT

What did you NOTICE?

Day
57

QUICK COUNT



How many do you see?
What counting shortcut did you use?

I noticed ____ so I _____

(They) noticed ____ so they___

Day 57

QUICK COUNT

Day 57

Reflect

What was mathematically important?

QUICK COUNT

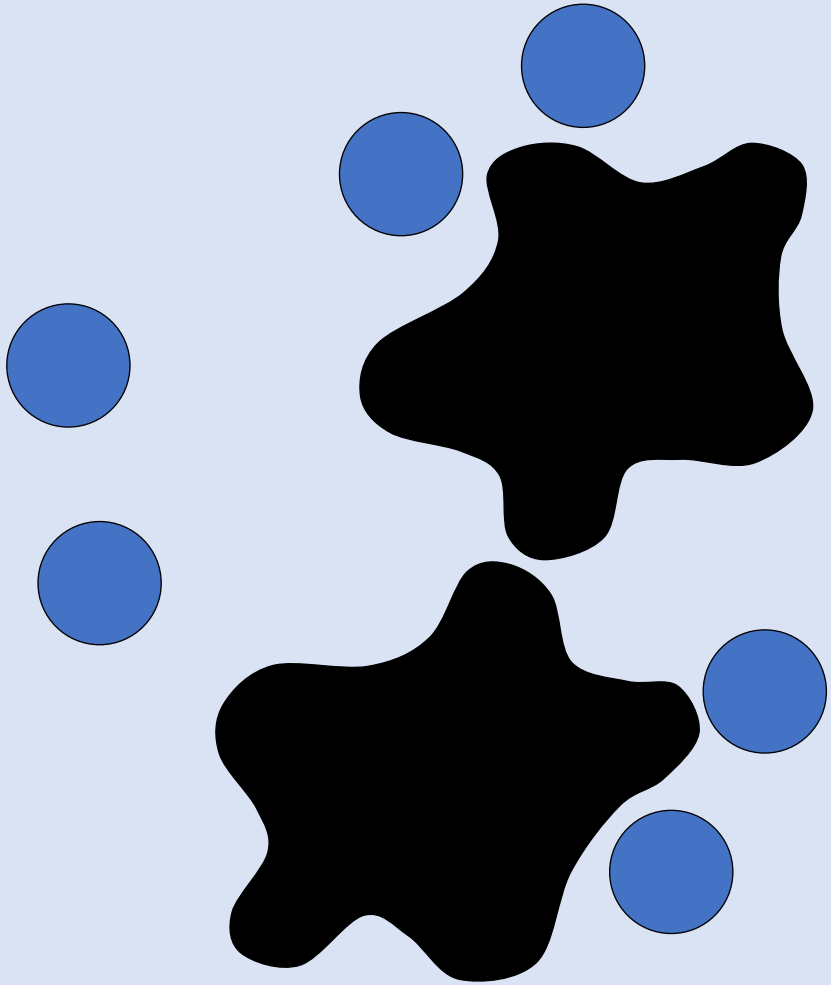
Day 58

12

Since both splats are the same color, they are hiding the same number of blue shapes.

How many are hiding altogether under both splats?

How do you know?
How else can you know?



SPLAT!

2.R.1
2.R.3
1.OA.C.6

Day 59

DECIDE & DEFEND

Using the DECIDE & DEFEND routine

- **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).

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- **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

Use the NEXT SLIDE with students.

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

Day 59

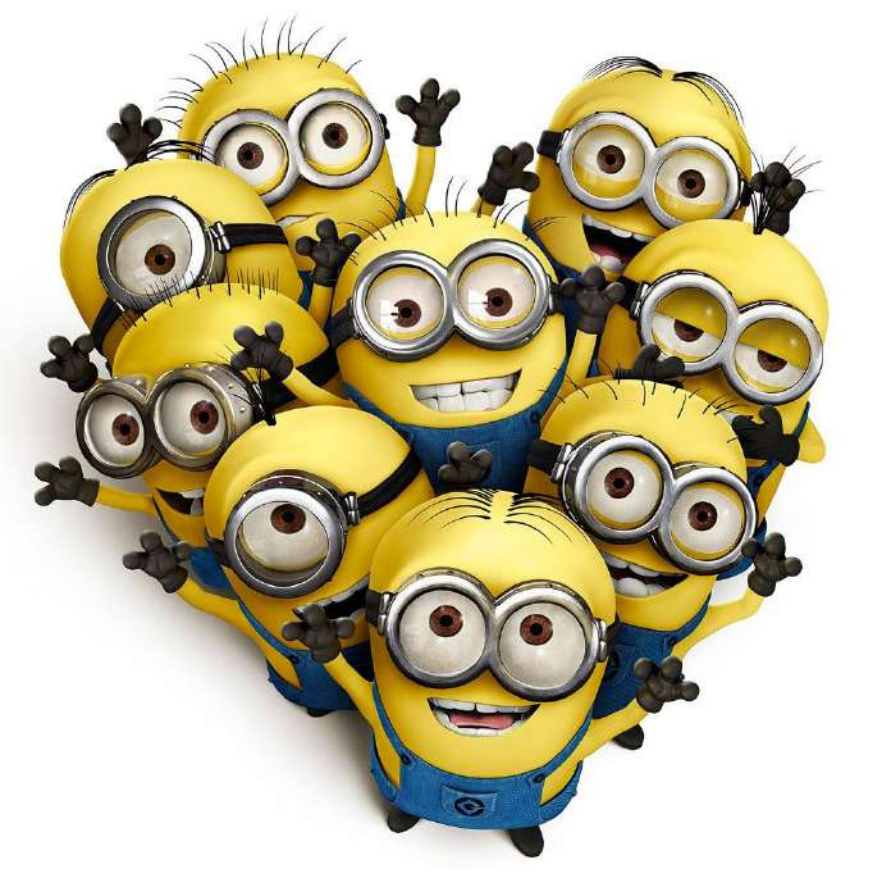
DECIDE & DEFEND

Allow students to decide and to explain their thinking.
Possible responses:

- Even numbers come in pairs. All of the minions have PAIRS of eyes EXCEPT TWO of the minions that have only one eye. We can pair the minions with one eye to make two eyes, so the total is EVEN --- the explanations will be an important component.
- Some students may count all of the eyes (16) to determine the value is even.
- It is most efficient to just consider the minions with one eye to see if those minions have a partner.
- **EXTEND by asking, "What if three more one-eyed minions joined the group… Would the number of eyes be EVEN or ODD? How do you know?"**

Day 59

EVEN or ODD?



Is the total number of minion eyes in this picture an even or odd number?
How do you know?

DECIDE & DEFEND

2.OA.C.3

Day 59

Reflect on Learning

- What was mathematically important in the problem?
- What new math idea did you learn today?

DECIDE & DEFEND

Day 60

NUMBER TALK

23 + 10
23 + 20
23 + 40
26 + 70

TEACHER NOTES

BEFORE

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DURING

Adding Up in Chunks: Multiples of 10

The Talk is designed to help students build on what they know about decomposing and adding 10s to a number.

Students will come with a range of strategies to solve. When a student mentions that s/he noticed that 23 + 10 is the same as 20 + 10 + 3 more, use this discussion to specifically encourage students to try this strategy of decomposing the numbers to "add them up in chunks".

Example: 23 + 10
20 +10 = 30
30 + 3 = 33

Example: 23 + 70
20 + 70 = 90
90 + 6 = 96 (do your students recognize what to do with the ones? – notice it has 6 ones and not 3 this time)

AFTER

After doing the Number Talk String, be sure to highlight this strategy and encourage students to "look for" places they can use it throughout the day.

Day 60

23 + 10

NUMBER TALK

2.NBT.B.9