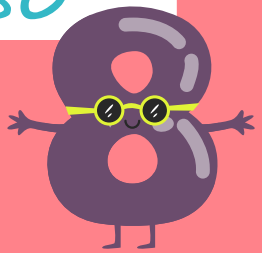
Prekindergarten

NUMBER SENSE Routines

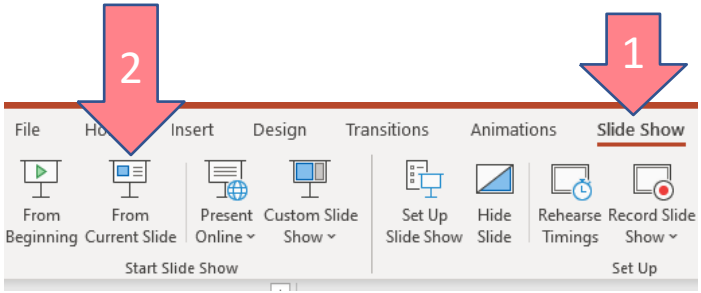
Days 161-180



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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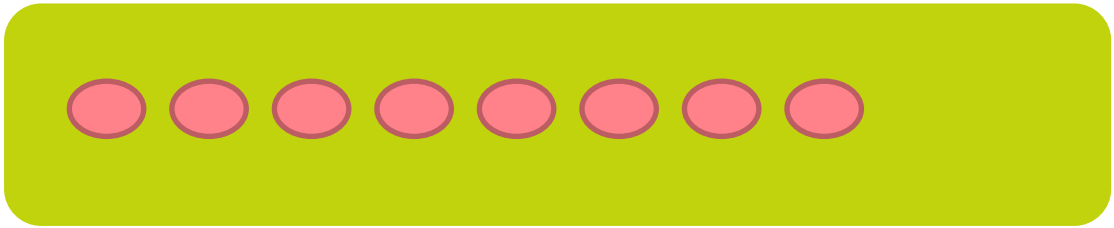
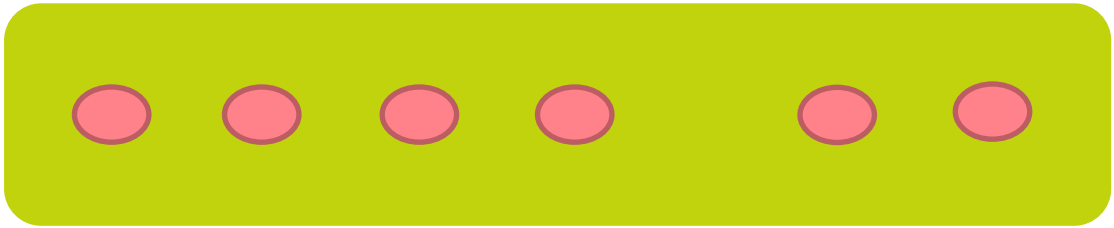
Day 161

ASK: Which image has MORE? How do you know?





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More or Less

PK.MD.B.4

How to facilitate Measure Mix

This routine is designed to build vocabulary specific to the measurable attributes of objects. In addition to these routines, the foundation of these understandings must come from experiences with real objects to explore heavier/lighter, longer/shorter, etc.

To facilitate this routine,

1. Show the image on the slide (up to 3 objects will be presented)
2. Ask the question shown on the slide. The question will focus on a single measurable attribute (weight, length, height).
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.
5. Prompt students to also answer the question "How do you know?"

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Day 162

ASK: Which will be heavier: These 2 small bears or these 2 small bears? How do you know?
FOCUS: Weight (heavier and equal)

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Measure Mix

PK.MD.A.2

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.

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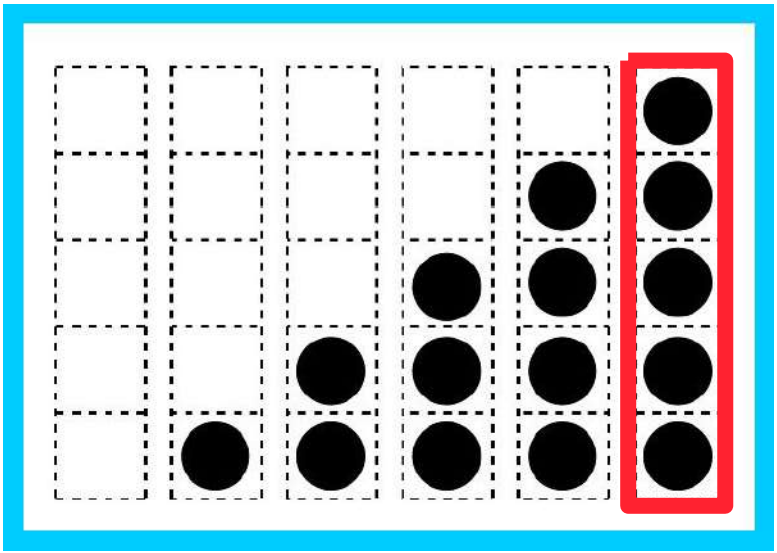
Clue by Clue

Day 163

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 not a 4

Clue 3
I need zero more to make 5

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Clue by Clue

PK.OA.A.3

How to facilitate Copycat

This routine supports students' ability to recognize and replicate patterns. As the year progresses, this routine will increase in rigor by only showing the image for a short amount of time and then asking students to replicate the pattern from memory.

To facilitate this routine,

1. Show the image or play the recording for auditory patterns.
2. Ask, "How many are in the pattern?"
3. Ask students to replicate the pattern.
   The pattern may require physical blocks, clapping and tapping, or a verbal description of the pattern.
4. If the pattern was hidden after showing it for a short time, reveal the pattern again so students can compare their pattern to the original pattern.

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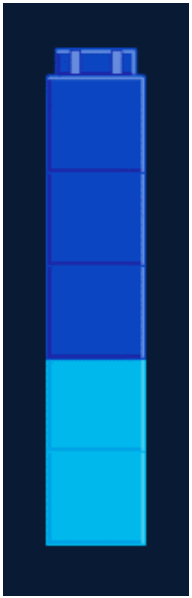
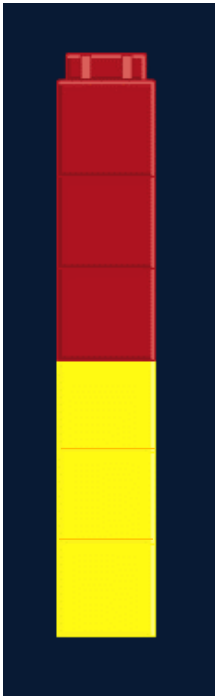
Copycat

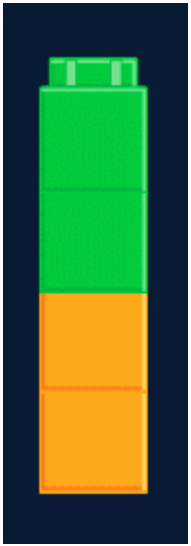
Day 164

ASK: Which math equation matches the cube model? How do you know?
Then have students use the cubes to help them find the sum of 4+6.
IDEA: Have students build a model for 3+2.

3 + 2







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Copycat

PK.OA.A.1

How to facilitate Example – Not Example

In Slide Show mode, right click to annotate on the slide. Select > Pointer Options > Pen.
Circle the images that students think will move to the *Example Ring*.
Objects will move when you click the mouse. The items you circled, should move.
Discuss as appropriate. Focus on the like characteristic of the items in the Example Ring.

This routine may be presented in one of two different formats:

Format 1:

1. Students will be given a single focus category (i.e., Rectangles / Not Rectangles).
2. Students will be asked to sort objects into groups. One group should contain the objects that are EXAMPLES of the category, and the other group contains objects that are NOT EXAMPLES of the category. Discuss student reasoning throughout the routine. [*NOTE: The objects in the slides are NOT drag and drop. After the discussion, all objects will move when the slide is advanced*].

Format 2:

1. Students will be shown a group of objects.
2. The class decides on ONE category [i.e., round things]
3. Discuss which items should be moved into the Example Ring.
4. Circle the objects that belong in the ring.
5. Erase the drawn circles and have students name a different category. Repeat the process.
6. As the slide is advanced, SOME of the examples will be revealed.

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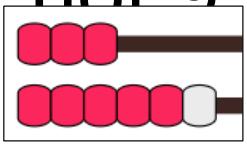
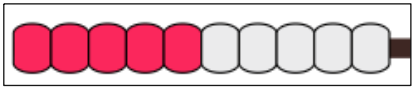
ASK: Which of these numbers represent 9? [circle student choices – allow for self-correction as needed].
After discussing/sorting the images, click for animation.
ASK: Do more of the models represent 9 or not 9?

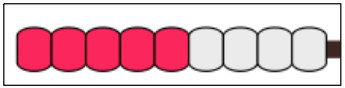
9

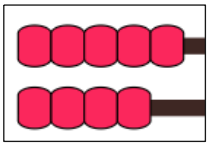
nine

not 9









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Example – Not Example

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."

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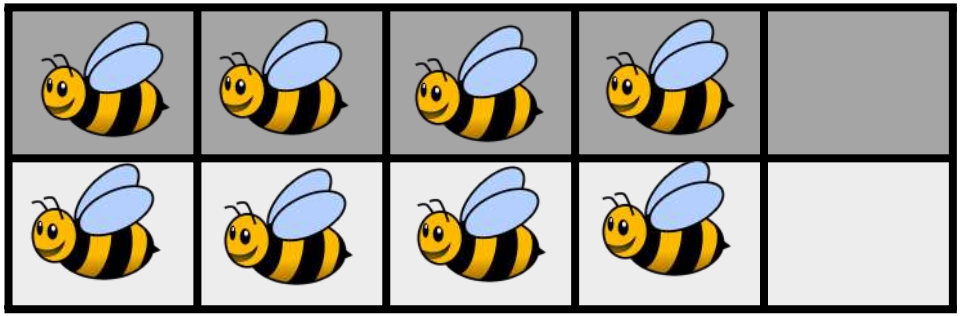
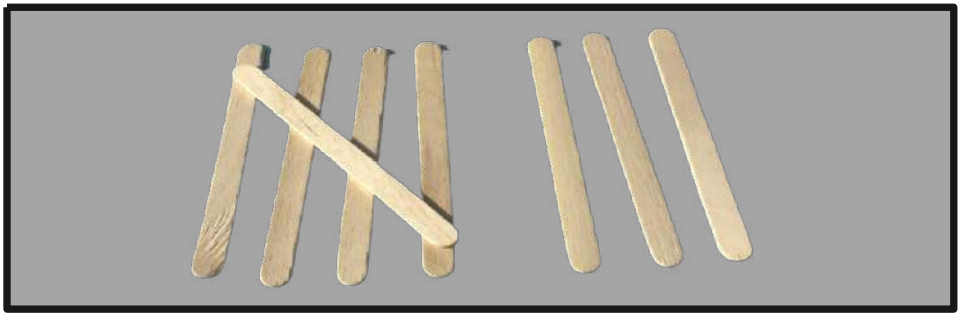
Same But Different

Day 166

ASK: How are these two images the SAME but DIFFERENT?





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Same But Different

PK.CC.C.6 & PK.OA.A.2

How to facilitate One More One Less

For this routine, students will determine what is ONE more or ONE less than a given value using visual images as cues.

To facilitate this routine,

1. Show the image.
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.
5. Prompt students to also answer the question "How do you know?"

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Day 167

SAY: Let's count. Ready? [click once to begin animation] Count 1, 2, 3, ….
ASK: What is one more than 19? What comes after 19 when we count? [discuss then click to reveal 20]
SAY: Let's count to 20 together [point to each number as students count 1-20]

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One More One Less

PK.CC.A.1

How to facilitate Would You Rather?

For this routine, you will notice that there isn't a single right answer. The goal is for your young mathematicians to develop math-related vocabulary that allows them to articulate their ideas and support their choice. Focus on the mathematical attributes, not on a single answer.

To facilitate this routine,

1. Ask your students, "Would you rather have "this" or "this"?
   Tell them each to think about the reason why they picked that one.

2. Then have your students share their ideas with a partner (this allows them time to practice and gives everyone a chance to talk).

3. Next have a few students share their choice and the reason they made that choice with the whole group.

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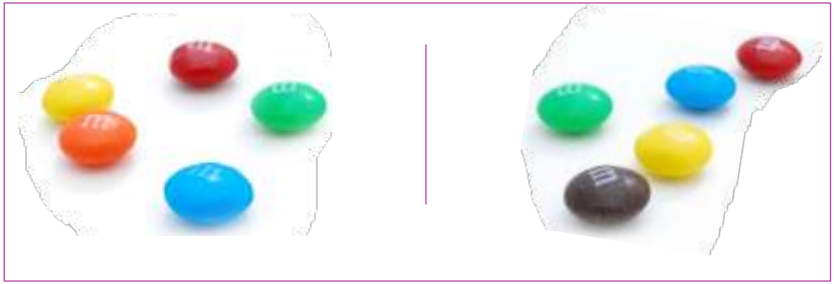
Day 168

ASK: If you were going to share ten candies with your friend, which way would you rather divide up the candies?
FOCUS: The focus is on decomposing 10 in more than one way. Remember, there is no right answer.
EXTEND: If appropriate, ask what other ways we could have shared the candies (1 and 9 OR 9 and 1, etc.…).



THIS WAY?

or THIS WAY?

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Would You Rather?

PK.OA.A.2

How to facilitate Where Does It Go?

This routine is designed to build sequencing skills, mathematical reasoning, and vocabulary.

To facilitate this routine,

1. Show students the slide (some will be animated) and ask students to think about where the target object might go.

2. After some think time, call on a student to share their idea. Do not acknowledge if the idea is correct or incorrect (yet!).

3. If the student does not offer an explanation, prompt the student by asking, **"How do you know?"** *(yes, ask even if the answer they provided is not accurate – students will often self-correct when prompted to explain).*

4. Call on another student and repeat Step 4. After several students have shared their ideas, reveal the correct solution (and celebrate!).

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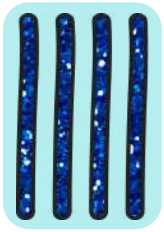
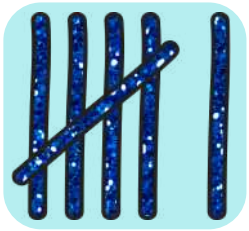
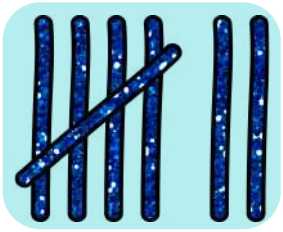
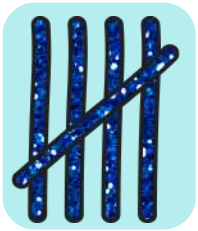
ASK: **Where does this one go?** (point to the one at the bottom). **How do you know?**
FOCUS: Recognize number representations that come right before or right after.



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Where Does It Go?

Day 170

ASK: If you eat one of these eggs for breakfast, how many eggs will be left in the carton? How do you know?

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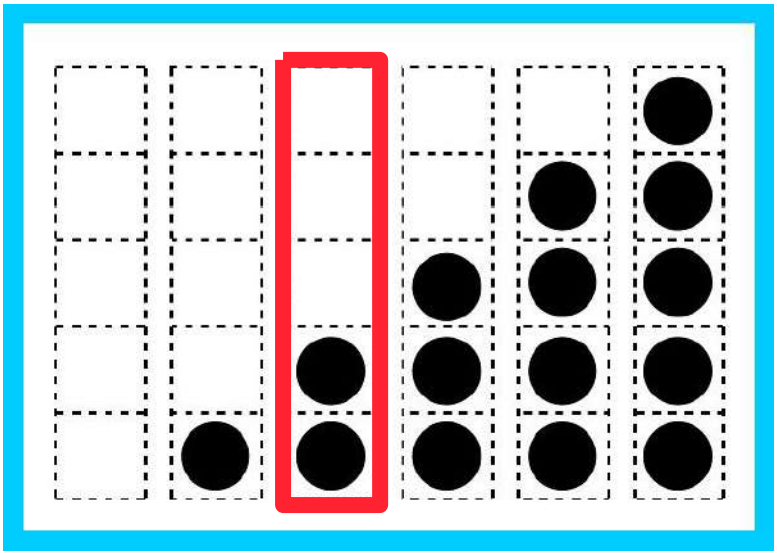
One More One Less

PK.CC.A.2

Day 171

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 less than 4

Clue 2
I am greater than 1

Clue 3
I need 3 more to make 5

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Clue by Clue

PK.OA.A.3

SAY: Listen to the claps. You will hear 3 claps then you will hear 2 more clap [click to play audio]
SAY: Let's listen again [click]
[click to show a clap graphic then guide students to use the graphic as they choral clap with you]
SAY: Now it's our turn. Let's clap 3 times [clap, clap, clap]. Now let's clap 2 more times [clap].
ASK: How many times did we clap altogether?
[Click to show a simple equation that matches the claps]. Discuss..

3

2

3 + 2 = 5

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Copycat

Day 173

ASK: Which 3 bears will be heavier: These 3 small bears or this 1 large bear with the 2 small bears?
ASK: How do you know?
FOCUS: Weight (heavier)

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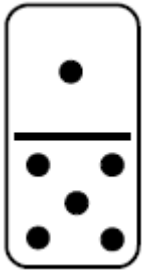
Measure Mix

PK.MD.A.2

Day 174

ASK: **Where does this one go?** (point to the one at the bottom). **How do you know?**
FOCUS: Recognize numbers that come right before or right after.

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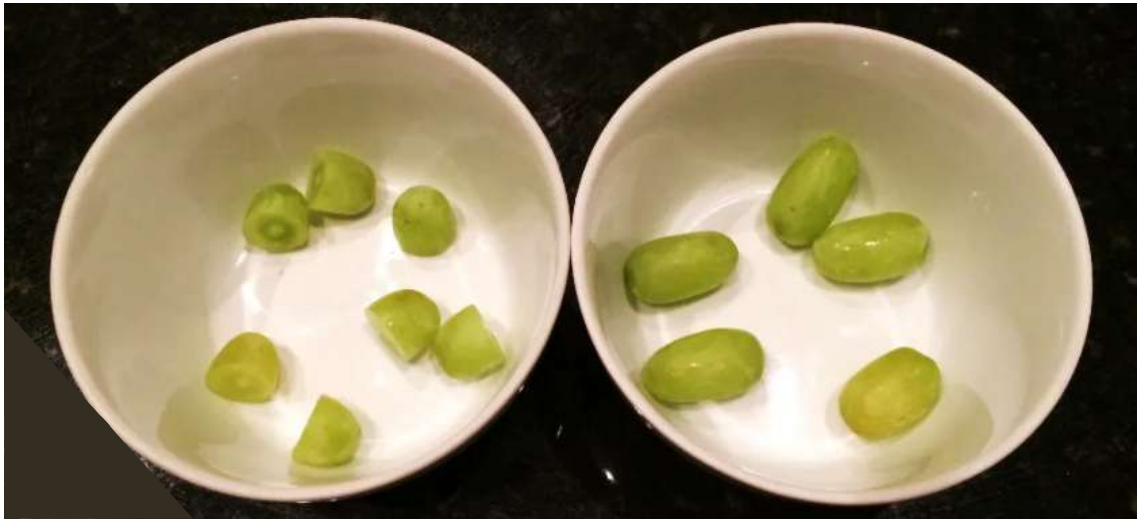
Where Does It Go?

PK.CC.A.2 & PK.CC.B.4

Day 175

ASK: Would you rather have THIS bowl of grapes [point] or THIS bowl of grapes [point to the other bowl]
FOCUS: There really is not correct answer so long as students recognize that having more pieces doesn't mean that you have more grapes; we must consider the size of the pieces.



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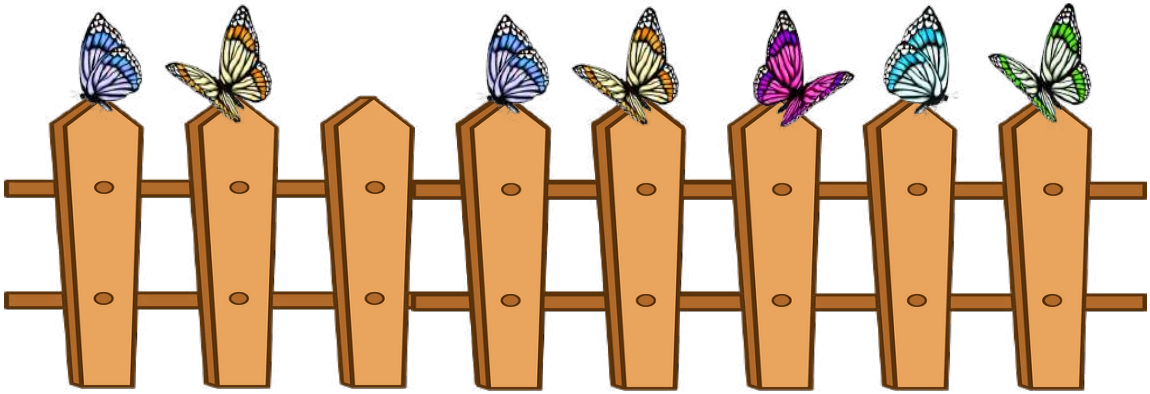
Would You Rather?

Day 176

ASK: Are there FEWER butterflies resting on the fence or flying in the air? How do you know?



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More or Less

PK.CC.C.6

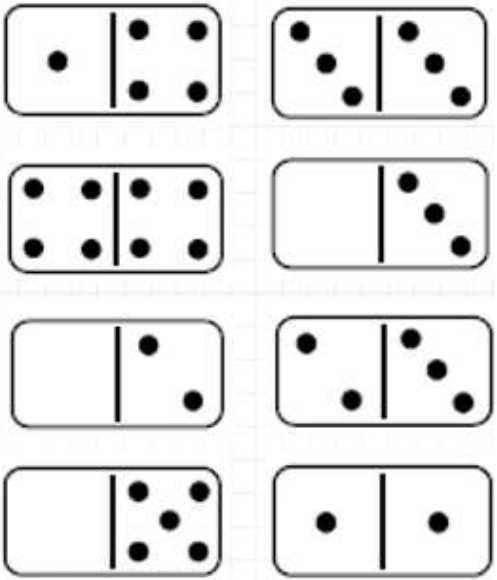
Day 177

Give plenty of time for discussion of student ideas. Then click to reveal and compare a few of the possible sorting ca

How can we sort these dominoes?

_____

not _____



Example – Not Example

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PK.MD.B.3

Day 178

ASK: How are these two images the SAME but DIFFERENT?

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Same But Different

PK.CC.C.6

Day 179

ASK: Which has FEWER bears? How do you know?

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More or Less

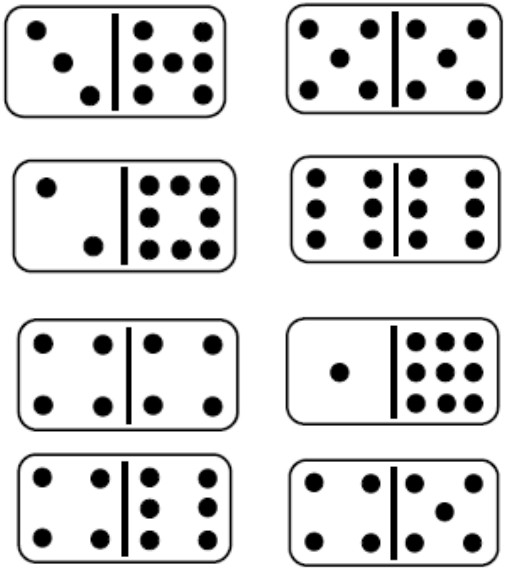
PK.MD.B.4

Day 180

ASK: Which of these numbers represent 10? [circle student choices – allow for self-correction as needed].
After discussing/sorting the images, click for animation.
ASK: Do more of the models represent 10 or not 10?

ten 10

not ten 10



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Example – Not Example

PK.OA.A.2

Many THANKS!

180 Days of Number Sense Routines for Prekindergarten

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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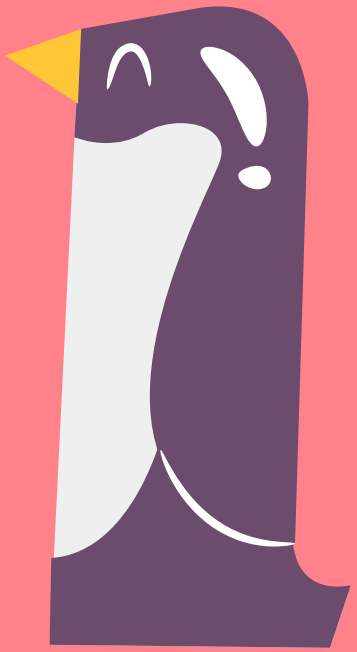

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June 2021

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