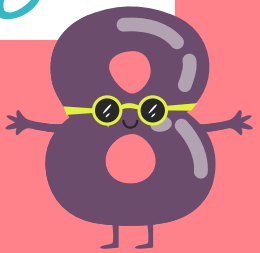
Prekindergarten

NUMBER SENSE Routines

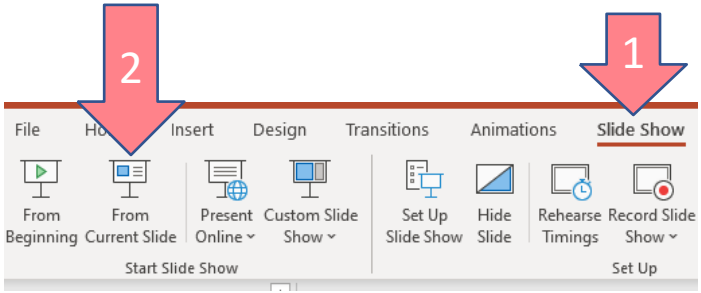
Days 81-100



HOW TO RUN POWERPOINT IN SLIDE SHOW MODE:

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

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



HOW TO ANNOTATE STUDENT THINKING ON THE SLIDE:

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

How to facilitate More or Less

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

To facilitate this routine,

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

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Day 81

ASK: Which image has FEWER crayons? How do you know?

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More or Less

PK.CC.C.6

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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ASK: Would you rather play with this bowling ball or this playground ball when we go outside?
FOCUS: The focus is vocabulary development of heavy/light. Students may include additional attributes in their justification. Remember, there is no “right answer”.

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Would You Rather?

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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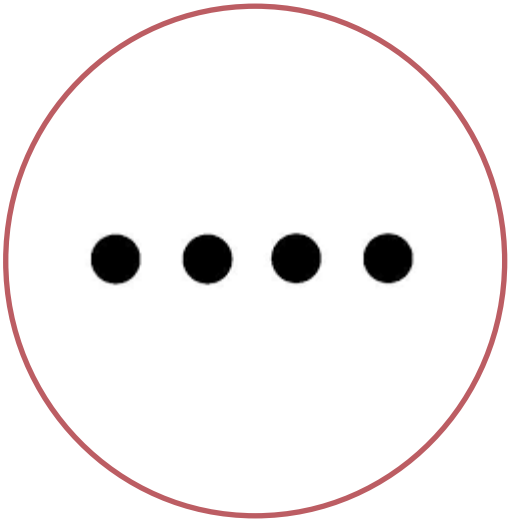
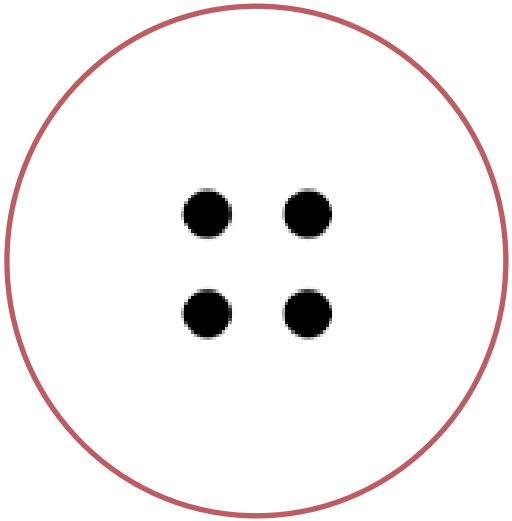
Same But Different

Day 83

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





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Same But Different

PK.CC.C.6

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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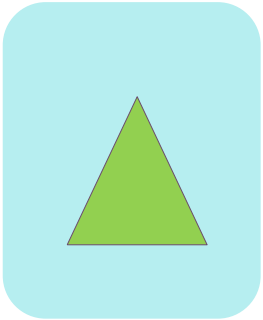
Clue by Clue

Day 84

ASK: Can you use the clues to guess which object I am?
FACILITATION NOTE: Use the annotation tool to mark off images that do not fit the clue.
NOTE: Using physical shapes (cylinder/cube/paper triangle) will further support the language of this task.



Clue 1
I am a three-dimensional shape

Clue 2
I am shaped like a cylinder

Clue 3
I hold food

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Clue by Clue

PK.G.B.4

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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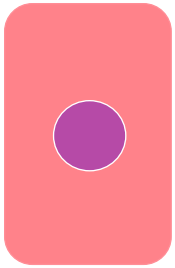
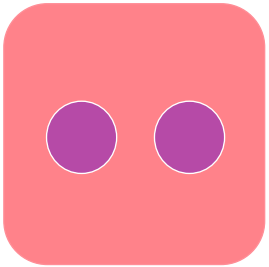
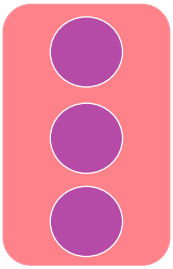
Where Does It Go?

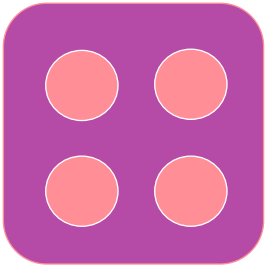
Day 85

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.









Light the Future
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Where Does It Go?

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 86

ASK: Which one is the tallest? How should we arrange these trees, so they are in tall, taller, tallest order?
FOCUS: Ordering by height

tall

taller

tallest

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Measure Mix

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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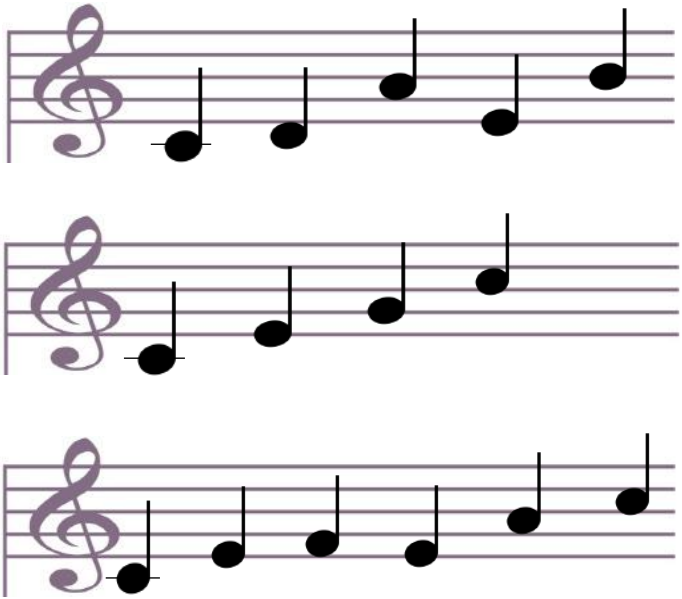
Copycat

Day 87

SAY: We are going to hear some piano notes. Count the number of music notes you hear.
[Click enter to play the sound].
SAY: Let's listen one more time. This time, use your fingers (your counters) to help you keep track of the notes.
[Click to play the piano notes again]
ASK: Which set of music notes matches the number of sounds you heard? How do you know?
[After discussing, click to reveal the correct set of notes]



Thelonious Monk, American pianist

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Copycat

PK.CC.A.4

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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SAY: Listen to the man count [click to play audio and to show the numbers he is counting].
ASK: What number should he say next? [solicit responses from students]
[After students have agreed that the man should say "nine" next, click to see number choices]
ASK: Which number is the number nine? [students can use the color to indicate their choice]

1 2 3 4 5 6 7 8 9

7 9 4 12 8

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One More One Less

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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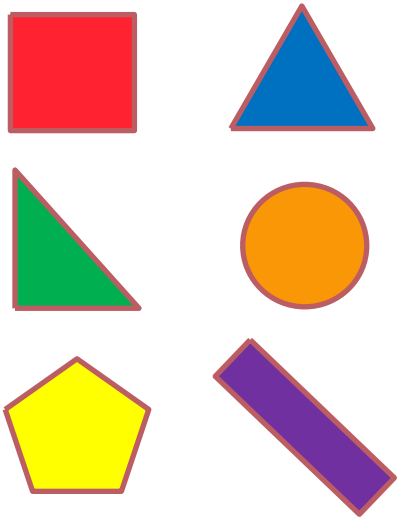
Day 89

ASK: Which of these shapes are rectangles? [circle student choices – allow for self-correction as needed].
After discussing/sorting the shapes, click for animation.
ASK: Are more of the shapes rectangles or not rectangles?

rectangles

not rectangles



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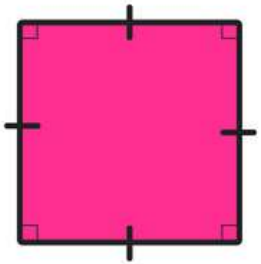
Example – Not Example

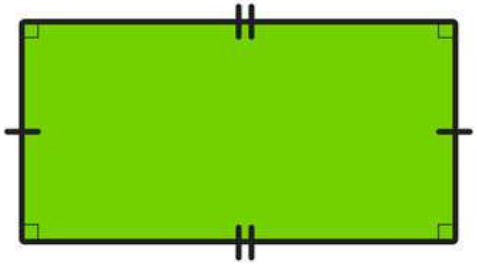
PK.MD.B.3 & PK.G.A.2

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

Square



Rectangle



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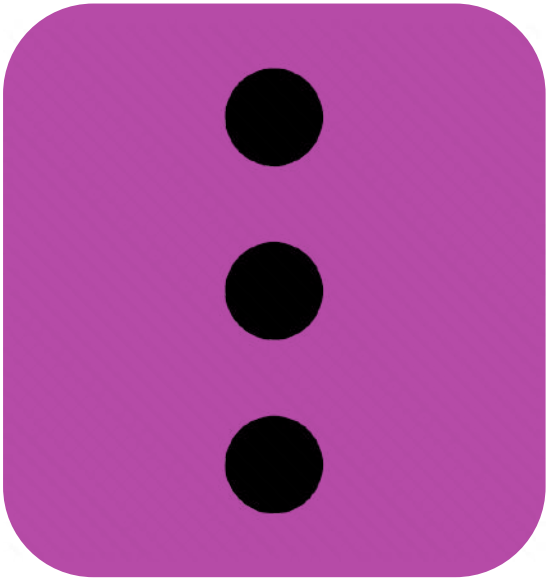
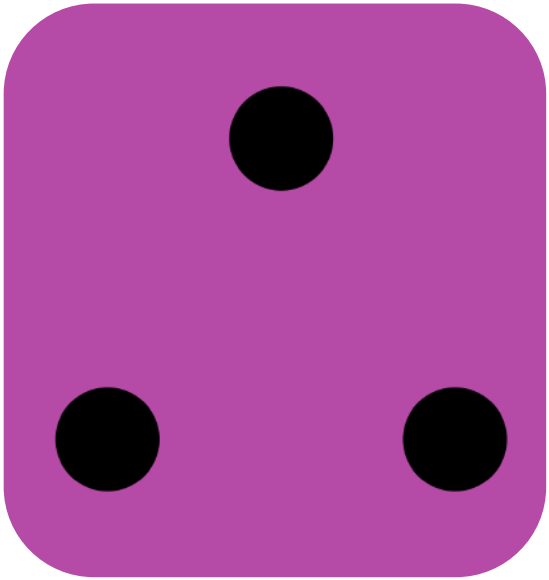
Same But Different

Day 91

ASK: Which image has MORE dots? How do you know? [They have EQUAL dots so neither one has more].





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More or Less

PK.CC.C.6

Day 92

ASK: Which will be heavier: 1 large counting bear or 1 small counting bear? How do you know?
TIP: Use a real balance scale and teddies to model that the larger teddy is heavier and the smaller bear is lighter.
FOCUS: Weight (heavier)

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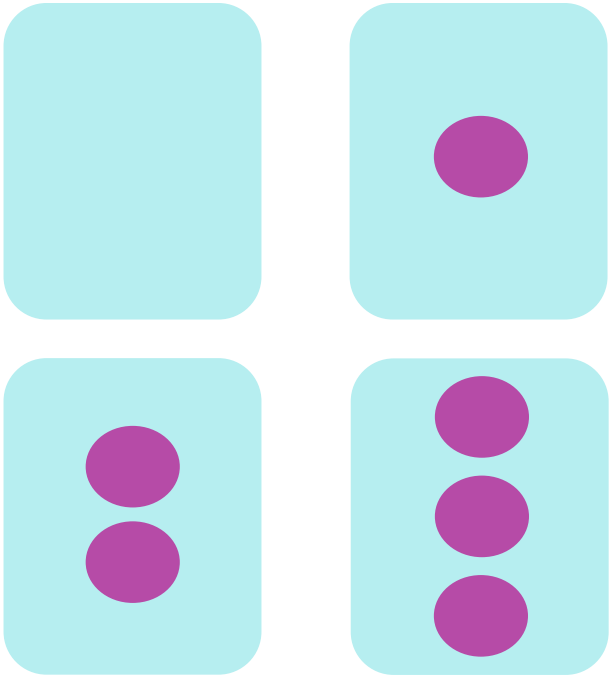
Measure Mix

Day 93

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



Clue 1
I have dots

Clue 2
I have
less than **3 dots**

Clue 3
I have
more than **1 dot**

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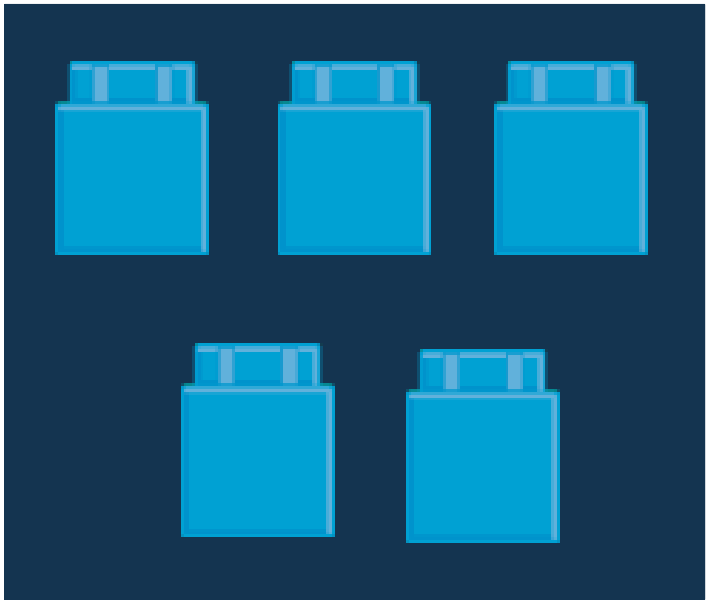
Clue by Clue

PK.CC.A.4

Day 94

PREP: Each student will need at least 5 cubes or other objects.
SAY: Look at these cubes. **Look carefully at the pattern they make**.
I am going to hide the cubes. Use your memory to make the pattern with YOUR cubes. Ready? [click]
Allow time for students to recreate the pattern. Once enough time is given, click to reveal the pattern again to compare.



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Copycat

Day 95

Give plenty of time for discussion of student ideas. Then click to reveal several possible ideas. Compare these sorting categories with those named by the students. .

How can we sort these buttons?

_____

not _____

Example – Not Example

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PK.MD.B.3

Day 96

SAY: These tiny sea turtles just hatched from their eggs and are crawling to the ocean. We see 3 tiny turtles. [click] Now we see 4. [click] Now there are 5 turtles crawling toward the ocean.
If one more turtle joins these five tiny turtles, how many turtles will be crawling to the ocean?
[Do not click (yet). Give think time. After some discussion, click to reveal the last turtle and the number six].

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One More One Less

ASK: Where does the number 5 belong on the number path? How do you know?
TEACHER TIP: Encourage students to use positional language: “The 5 goes after the 4” or the “The 5 is behind the 4” or “The 5 is last on this list of numbers”. Allow multiple students to respond before revealing the solution.

5

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Where Does It Go?

Day 98

SAY: Which U.S. flag has the fewest stars? How do you know?
Discuss. Listen to multiple responses from various students before acknowledging the correct flag.
Encourage the use of positional words (first, middle, last) as students identify their flag choice.
Help students recognize that they do NOT always need to count every item to recognize most/fewest.
FOCUS: Quantity - with a specific focus on the term “fewest”

13 stars -- 1777-1795
29 stars -- 1847-1848
50 stars -- 1960-present

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Measure Mix

PK.MD.A.2

Day 99

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

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Same But Different

PK.CC.B.4 & PK.CC.C.6

Day 100

SAY: Today is the 100th day of school [skip this statement if it is not appropriate for your situation]
ASK: Would you rather collect 100 dinosaur stickers or 100 butterfly stickers? Explain your choice.
FACILIATION NOTE: Although PreK students do not work with values to 100, they will recognize from the image that 100 is "a lot of stickers". Students will use the number 100 in their explanation, but the focus is on their choice of stickers, not the number or count today.

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Would You Rather?

PK.OA.A.1

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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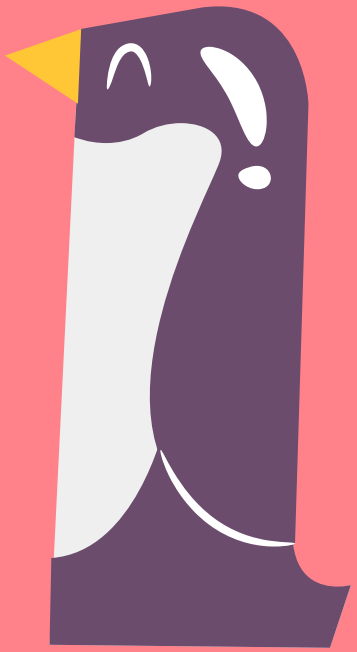

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