



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



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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ASK: Which vase of flowers has FEWER roses? How do you know? TIP: Students do not need to count to answer this question. By subitizing, they will likely know the first vase has 3 roses and can see that the second vase has more than 3. This type of reasoning is appropriate to answer this question.





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More or 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.



Example – Not Example

ASK: Which of these shapes are numbers? [circle student choices – avoid the temptation to correct students; allow for self-correction as needed. Click for animation. After objects have moved, discuss any errors in thinking]. ASK: Are more of the shapes numbers or not numbers?

TEACHER NOTE: The values are equal. Encourage productive struggle/discussion of students deciding neither has more.

Day 62



PK.CC.A.3 & PK.MD.B.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?"
- 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.



Copycat

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PREP: Each student will need at least 5 cubes or other objects.

SAY: Look at this cube pattern. Think about how many cubes are used to make this pattern. I am going to hide the pattern. I want you to 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.



Copycat

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.

Clue by Clue



ASK: Can you guess which person I am describing? I'll give you some clues to help you.

PK.MD.A.1



Clue 1 l am holding a book

Day 64

Clue 2 I am not the shortest

Clue 3 I have long hair

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Clue by Clue

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!).



Where Does It Go?



ASK: If we put these ice cream cones in order, where does the 3-scoop cone go? How do you know?





Day 65

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?"



Measure Mix

PK.MD.A.2

ASK: Which one is the fastest? How should we arrange these if we put them in order by fast, faster, fastest? FOCUS: Ordering by speed





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fast

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faster

fastest

Measure Mix



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?"



One More One Less



SAY: Listen to the woman count to five as the penguin hops up the stairs [click to begin animation]. ASK: What number should she say next? How do you know?

One More One Less

Day

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,

- 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 <u>round</u> but one is a toy, and the other is a dish."



Same But Different



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

FOCUS: The focus is on identifying that the number of slices is equal. One is grouped, and the other is separated. Other similarities and differences may be noted, as well.







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,

- 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.



Would You Rather?

PK.MD.A.2

ASK: You are helping with the laundry at home. Which laundry basket would you rather carry? Tell us why you would rather carry that basket.

FOCUS: Remember, there is no right answer. The focus is vocabulary development of heavy/light.. Students may mention other reasons for their choice that do not involve heavy/light.





Would You Rather?

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NOTE: The wildcats are a snow leopard (long tail) and a bobcat (short tail).

long

not long





Day 70



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Example – Not Example



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



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Same But Different

ASK: Can you use the clues to guess which racecar I am? FOCUS: Ordinal positions with an emphasis on before/after, first/second/last



Clue 1 I am AFTER the red car

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Clue 2 I am BEFORE the pink car

Clue 3 I am NEXT TO the flagman

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PK.CC.B.4







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Day 73



PREP: Give students a small pile of counters to push forward as they hear each quack. Or just use fingers. ASK: How many times does the duck quack? Listen carefully. Count the quacks. [Click to hear the quacks]

SAY: Let's listen one more time. Use your fingers (counters) to help you count the number of quacks. [Click to hear the quacks again] Discuss



ASK: If we put these animals in order from smallest to biggest, where does each animal go?



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ASK: Which image has MORE strawberries? How do you know? The bowl has more – it doesn't matter how many it has. We can count that it has more than 9.









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ASK: Where does the number 4 belong on the number path? How do you know?





PK.CC.A.2

ASK: How many puppies? If ONE puppy runs away to play, how many puppies will be left? TIP: Write the counting numbers below the puppies as you count them aloud together.





One More One Less



ASK: You can have 3 treats. Would you rather have 2 cookies and 1 scoop of ice cream or 1 cookie and 2 scoops of ice cream? Explain why you chose that way of having 3 treats. FOCUS: The focus is on decomposing 3 in a variety of ways. EXTEND: Discuss that 2+1 and 1+2 both equal 3.





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Would You Rather?



PK.G.B.3



PK.G.B.4

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 youngj@calvertnet.k12.md.us plachnok@calvertnet.k12.md.us cained@calvertnet.k12.md.us

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