

## Common Core Mathematics Standards: Grade K

### Goals

- Explore some mathematical tasks
- Unpack the Standards
- Consider how we teach some of the “big ideas” in our grade

### Checking Our Pulse

- How has the year gone so far in math?
- How are your students doing?
- Topics of concern?

### Today's Number

- Today's number is 10
- Write down some “pictures” of 10
- Write a pair of numbers that you can put together to make 5.
  - After you find one pair find another pair.
- Addends to get 10
- 3 addends to get 10

### Today's Number

- What is the benefit of these types of activities?
- How do your students do with these types of activities?
- Write a “today's number” activity for your classroom.
- You need to include at least 3 different parts
- Include 3-4 follow up questions that you can ask.

### Number Sense...

- What do those two words mean to you?
- What concepts do your students struggle with?
- How has the Common Core influenced what “number sense” means compared to before?

## Developmental Progression

- Take a look at the concepts on this sheet
- In small groups (2-3 people)
  - What is the progression of these concepts?
  - What grade are these introduced?
- In your grade what are you responsible for?
- For each – what makes this concept difficult for some students?

## Developmental Progression

- Answers...
- Surprises?

## Counting

- When we show Kindergarten students a set of objects how do we want them to count?

## Counting- 10 counters

- Student 1: Lines them up and counts with hands in their lap
- Student 2: Line them up and counts them by touching each one without moving them
- Student 3: Line them up and count them by touching them and dragging them somewhere else
- Student 4: They are in a pile and each one is moved as it is counted
- Student 5: They are in a pile and the student counts them without touching or moving them

## Counting

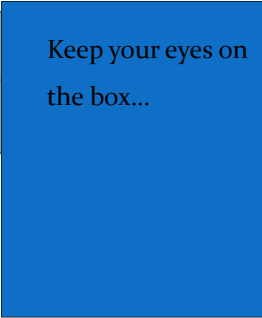
- Read the handout
- What are the major takeaways for your teaching?

## Watch the box!

How many dots do you see?

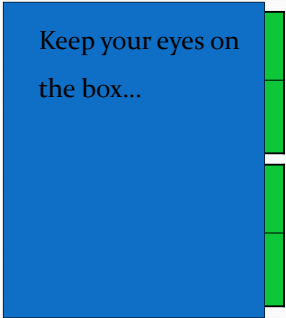
Watch the box!

Keep your eyes on the box...



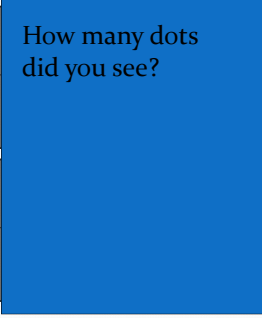
Watch the box!

Keep your eyes on the box...



Watch the box!

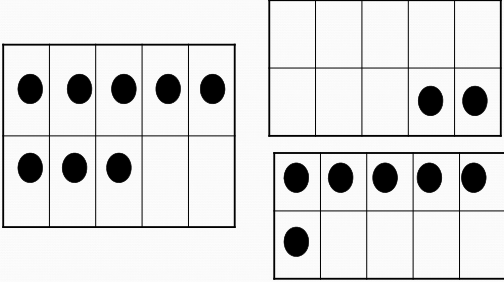
How many dots did you see?



Ten and "some more"



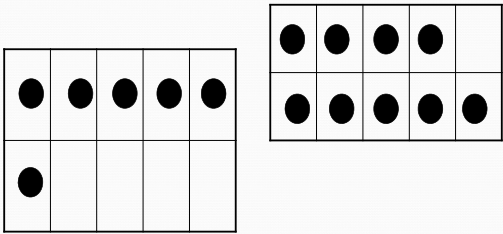
Ten and "some more"




Ten and "some more"



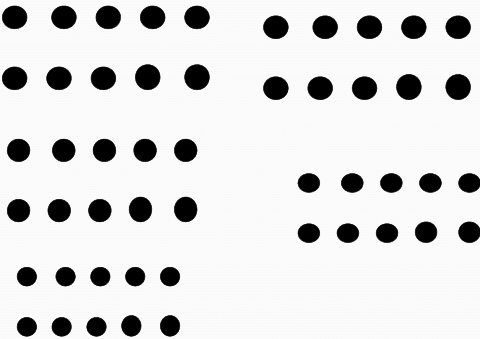
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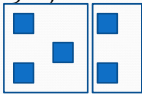


### Activity Exploration

- Focal questions
- What are the mathematical ideas students work with?
- Where may students need support with these activities?

### Pictures of 5

- Arrange 5 objects on paper
- Trace or draw them (we would want students to trace)
- Split the 5 objects into 2 groups and circle each group



- Write the total in each group
- Write an addition phrase/equation
  - 3 joined with 2 equals 5,  $3+2=5$ , 3 and 2 more is the same as 5

### Parts of 8

Group 1	Group 2
7	1
6	2
5	3
4	4

## Pictures of 5

- What other materials can you use?
- Where is the rigor?
- How can you differentiate this activity?

## Red or yellow

- Make a table with columns: Red, yellow, total
- Grab 9 counters.
- Drop them on your paper.
- If you end up with 4 red and 2 yellow...
  - 4 in the red column, 2 in the yellow column
- What goes in the total column?

## Build It, Change It (modified from investigations)

- Pull a number card
  - Build the picture with cubes or counters
- Pull another number card
  - Add that number with a different color of cubes/counters
- Record an equation/phrase of your situation
  - "8 joined with 3 is the same as 11"

## Task analysis...

- For each task solve it
- Use an equation and one other representation when you solve it

## Task Sort Table

- Complete the table

## Task Sort

- What do you notice about all/most of the tasks?
- Difficult tasks?
- Easy tasks?
- What makes a task difficult/easy?
- Algebra??? Really... where ?

## Problem types

- Let's look at the chart of problem types in the Unpacking document
- How do you support students' solving of word problems?

## Math Games

- What is the purpose of playing games in math?

## Make 10

- Get 5 number cards each.
- You have a match when you have 2 cards that have a sum of 10.
- If you don't have matches you can ask your classmate or draw from the pile. After 3 attempts to make a match you lose your turn.

## Close to 10

- Turn over 4 number cards. Pick 2 of them to get a sum that is close to 10 as possible.
- Students should build each number and the sum with cubes.
- Want to keep score?
  - Students' score is their distance from 10.
  - Keep playing and keep track of your score.