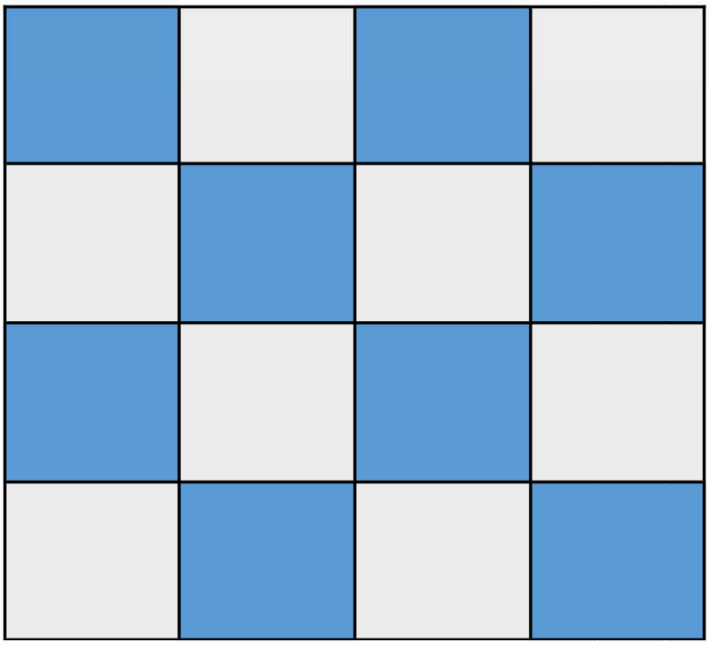
NUMERACY RICH ACTIVITIES PRIMARY

Checkerboard N1, N9, N10, PR3, SS8

Problem:

How many squares are there on a 4 x 4 checkerboard?



If this is too difficult for your students, try starting with a 2 X 2 checkerboard, then a 3 X 3 checkerboard.

Credit: Adapted from a problem by Rita Zazkis

Extension:

How many squares are there on a 5 x 5 checkerboard? A 6 x 6?

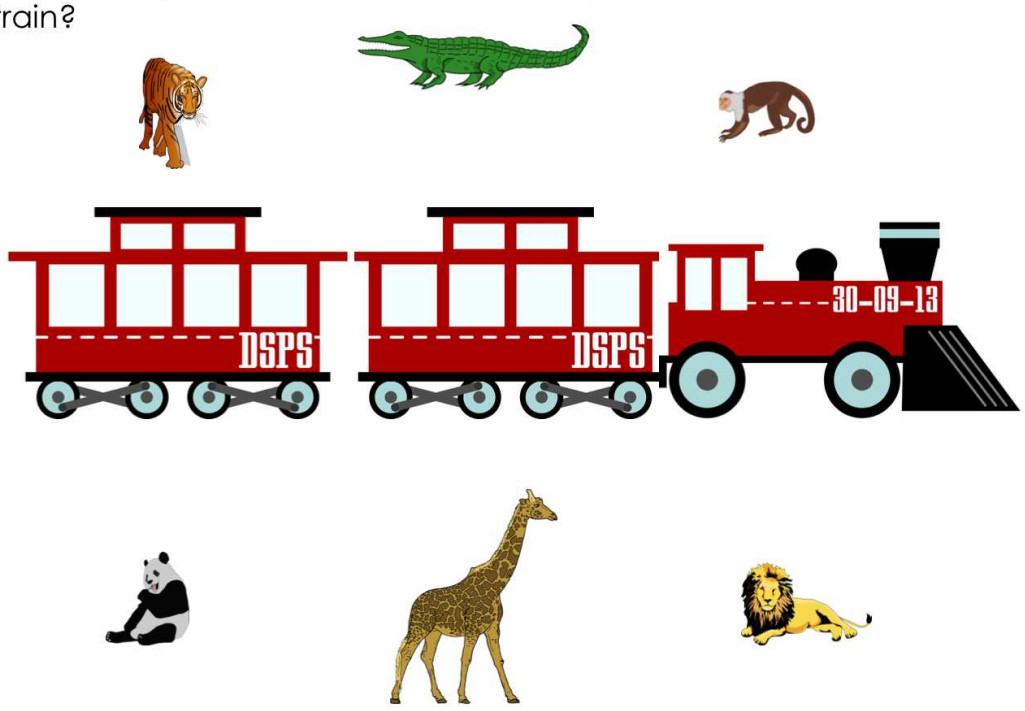
BACK

#3: Zoo Train

Problem:

The zoo has a train that carries people between exhibits. One morning the first passengers got on at Monkey House. At Alligator Pond the number of people who got on was 3 more than got on at Monkey House.

The train made 4 more stops: Tiger Thicket, Panda Playground, Giraffe Savannah, and Big Cats. At each of these stops, 3 more passengers boarded the train than at the previous stop. At Big Cats, 20 people got on the train. How many passengers in all boarded the train?



Credit: Adapted from: Ray, Max (2013). *Powerful Problem Solving Activities for Sense Making with the Mathematical Practices.* Portsmouth, NH: Heinemann.

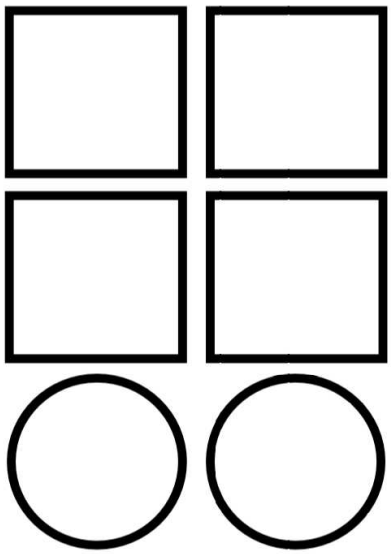
Notes:

BACK

#1: Coloured Shapes

Problem:

What colour is each shape?
Write it on the shape.



Clues:

- **Red is not next to grey.**
- **Blue is between white and grey.**
- **Green is not a square.**
- **Blue is on the right of pink.**

Credit: Crown copyright, 2000, *Mathematical Problems for Able Pupils.pdf* retrieved from https://www.egfl.org.uk/sites/default/files/maths%20puzzles%20all.pdf

Notes:

BACK

B

#5: At the Fair

Problem:

Emilia and Kaley are at the fair. They have ten more minutes before they have to leave. They have three tickets each to ride three rides each. What three rides could they take before they have to leave?

Rollercoaster - 6 minutes
Bumper Cars - 5 minutes
Tea Cups - 4 minutes
Ferris Wheel - 2 minutes
Swings - 1 minute
Merry-Go-Round - 3 minutes

Credit: Adapted from *Problem Solving Deck A Cards.pdf. Retrieved from http://maccss.ncdpi.wikispaces.net/file/view/Problem%20Solving%20Deck%20A.pdf/554108028/Problem%20Solving%20Deck%20A.pdf*

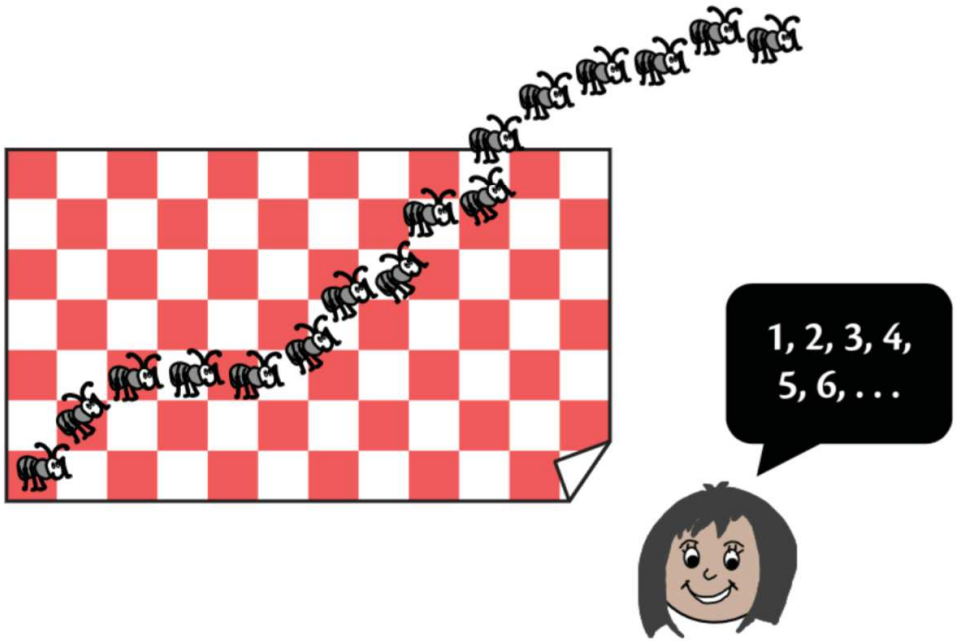
Extension:

How many other ways could they use their 10 minutes and 3 remaining tickets?

Notes:

BACK

Which ants did Meghan already count? How high will she go to count all of the ants?



COUNTING UP BY 1s • Grades K–2 • CCSS K.CC

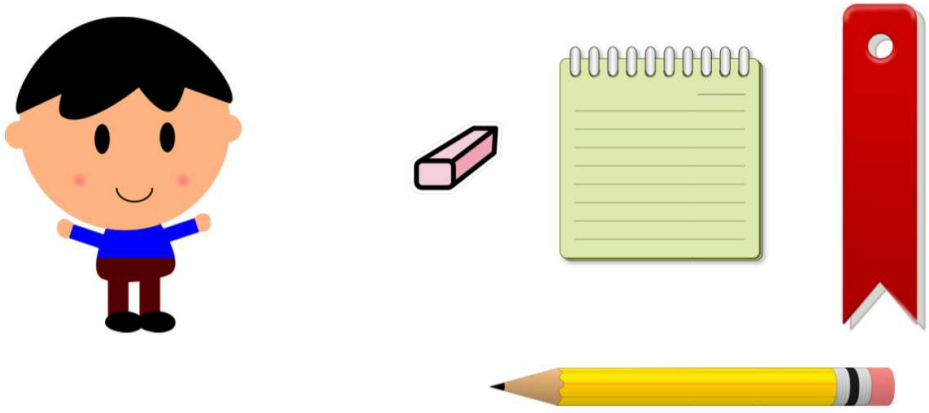
#6: Sticker Rewards

Problem:

Dylan has earned 10 stickers for reading books. He can trade the stickers for items in the class store.

1 sticker - bookmark
2 stickers - eraser
3 stickers - pencil
4 stickers - notepad

What can Dylan get with his 10 stickers?



Credit: Adapted from *Problem Solving Deck A Cards.pdf. Retrieved from http://maccss.ncdpi.wikispaces.net/file/view/Problem%20Solving%20Deck%20A.pdf/554108028/Problem%20Solving%20Deck%20A.pdf*

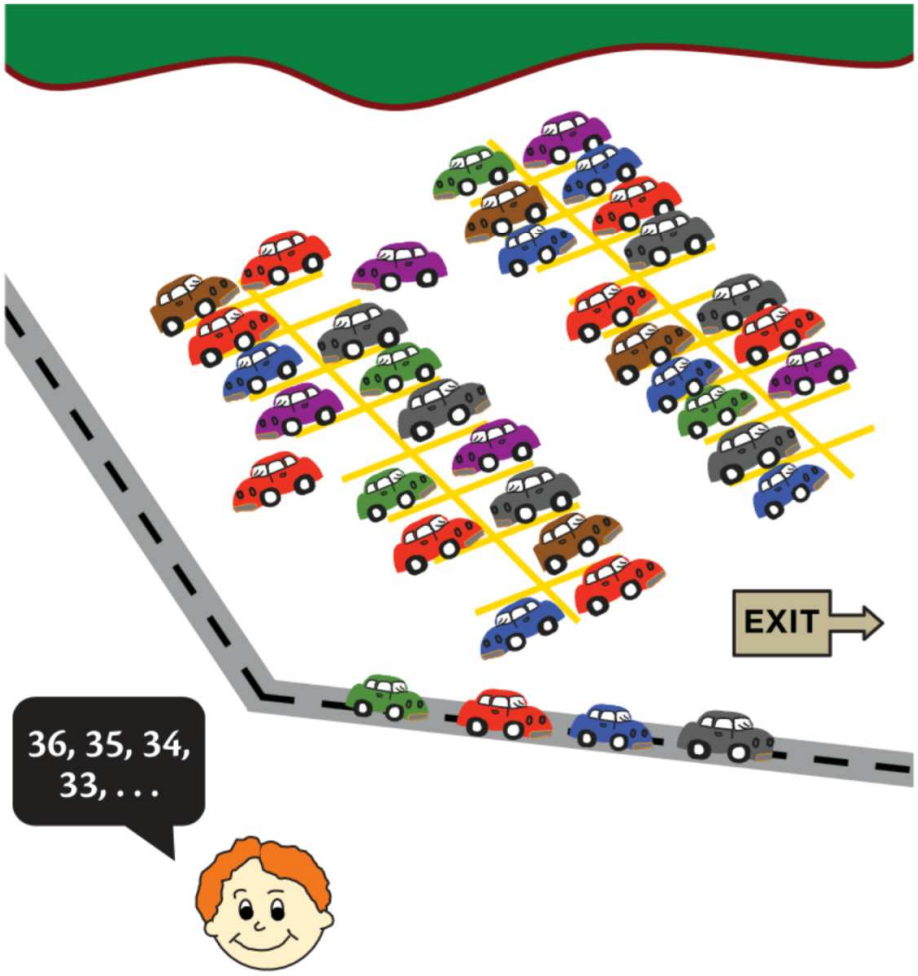
Extension:

What could Dylan get if he had 15 stickers?

Notes:

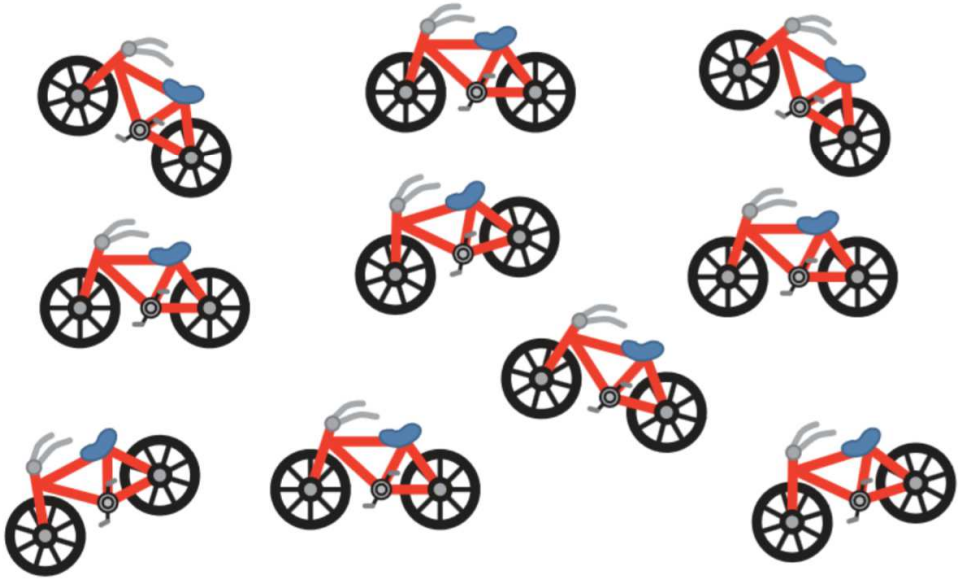
BACK

What numbers will be said next? What does each of the numbers tell?

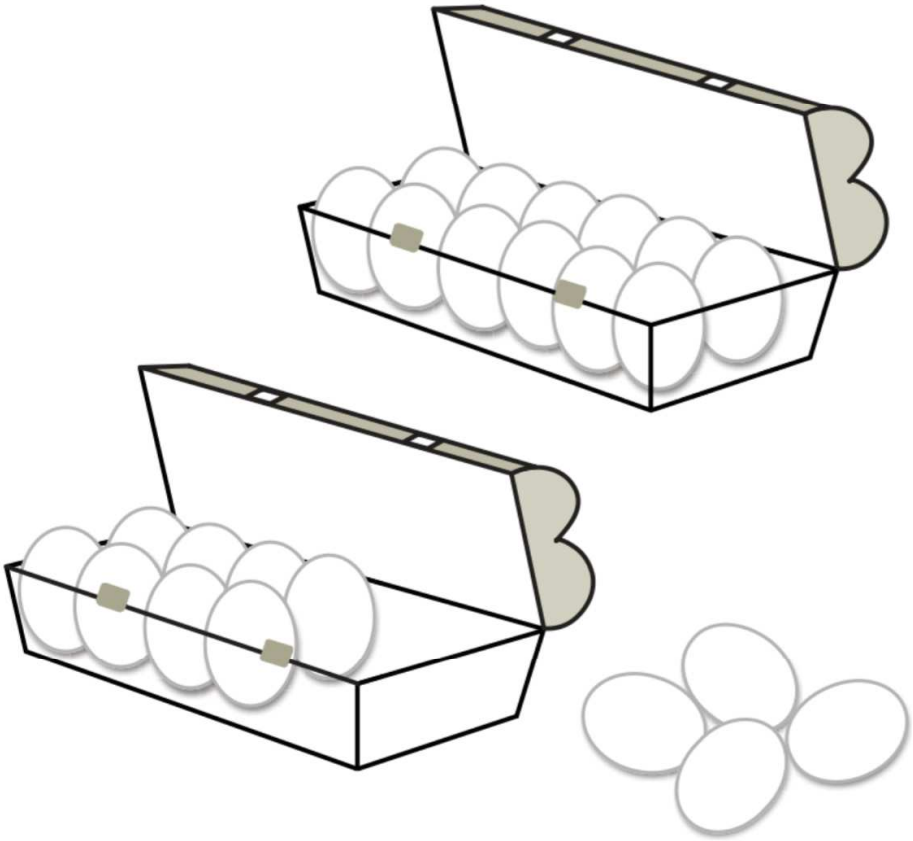


COUNTING BACK BY 1s • Grades K–2 • CCSS 1.OA

What is the best way to count the bicycle wheels?

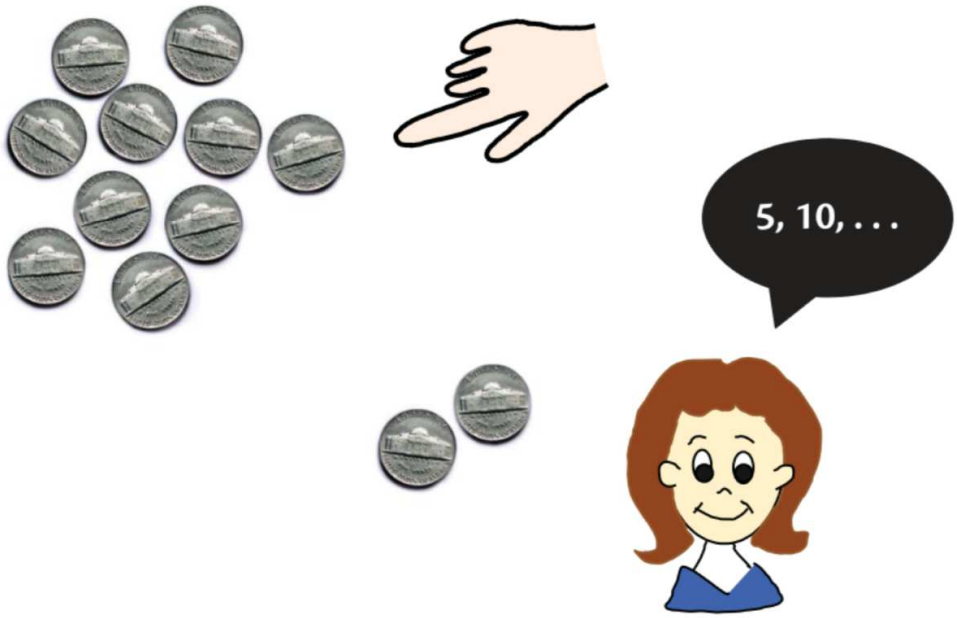


Mom is counting how many eggs are left each time she takes some out. What numbers will she say if she takes out 2 eggs at a time?



COUNTING BACK BY 2s • Grades K–2 • CCSS 1.OA

Count to know how much money Keesha has.



COUNTING UP BY 5s • Grades K–2 • CCSS 2.NBT

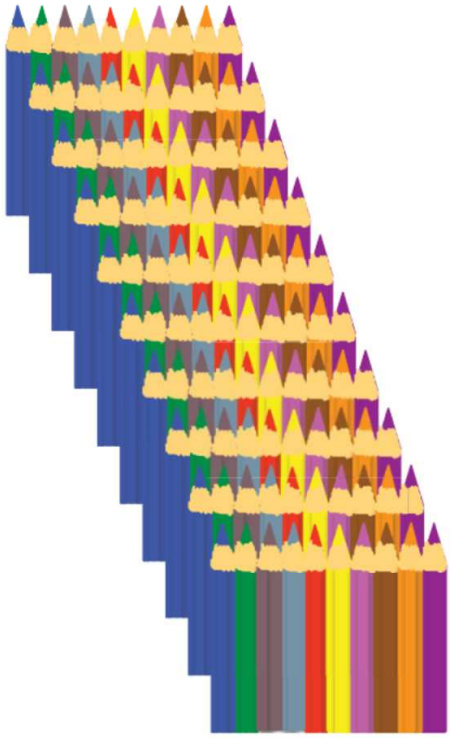
Andrew is buying candies. How much money will he have left after he buys each candy?

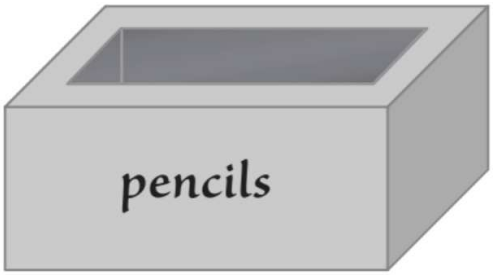
COUNTING BACK BY 5s • Grades K–2 • CCSS 2.NBT

Count the number of fingers, one set of handprints at a time.

COUNTING UP BY 10s • Grades K–2 • CCSS 2.NBT

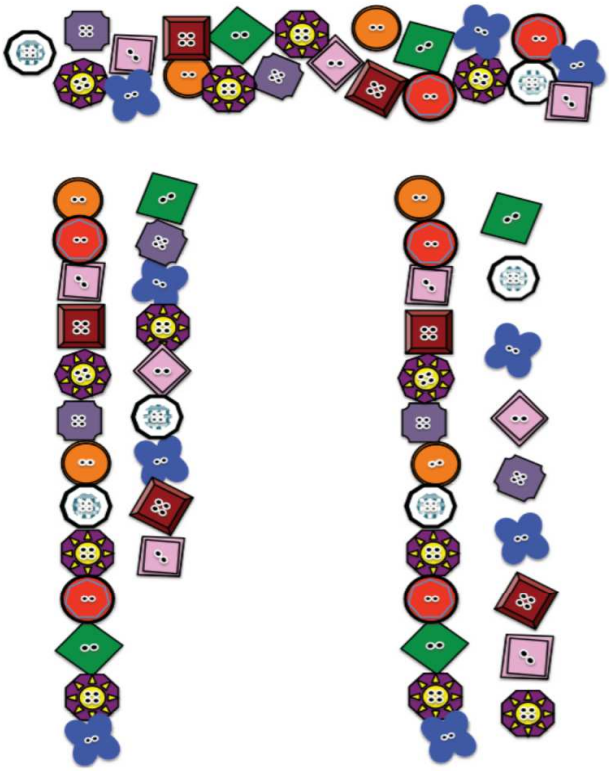
There are 100 pencils. You put the pencils from one row at a time into the box. Count to tell how many pencils are left outside of the box each time that one row of pencils is removed.





COUNTING BACK BY 10s • Grades K–2 • CCSS 2.NBT

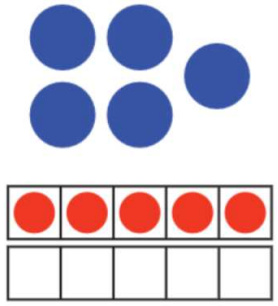
The buttons at the top are arranged into two lines in two different ways. Which way makes it easier to tell which line has more buttons?

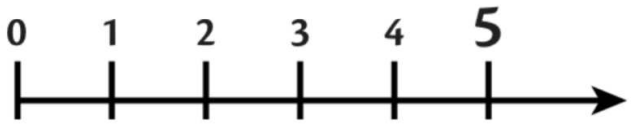


COMPARING NUMBERS BY MATCHING • Grades K–2 • CCSS K.CC

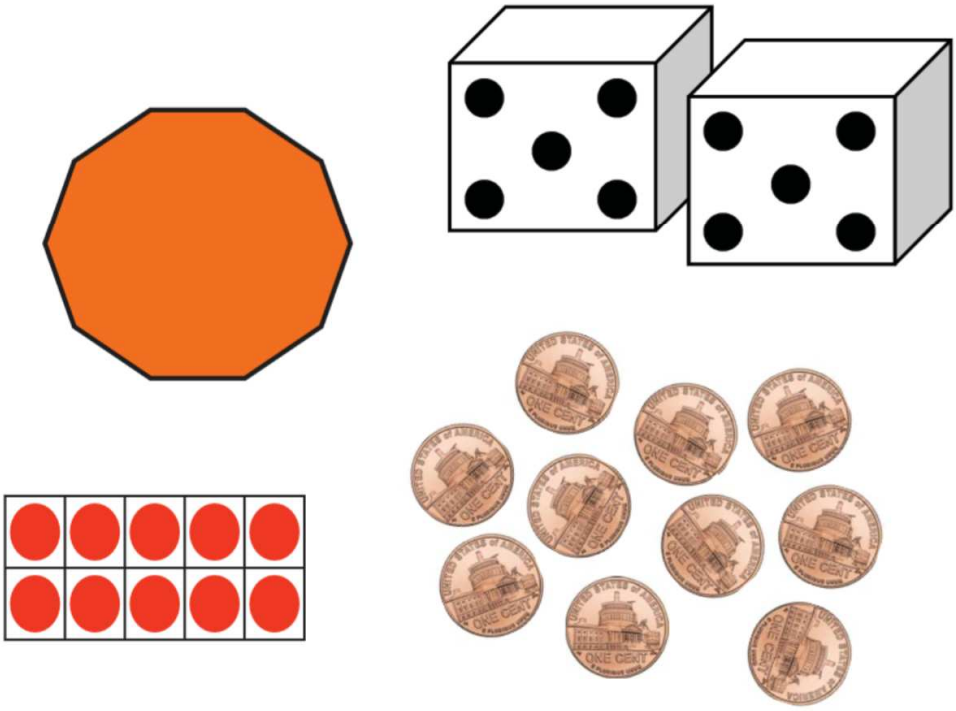
What does each picture tell you about 5?

FIVE

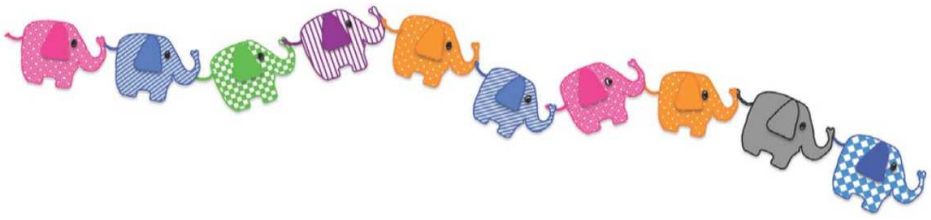




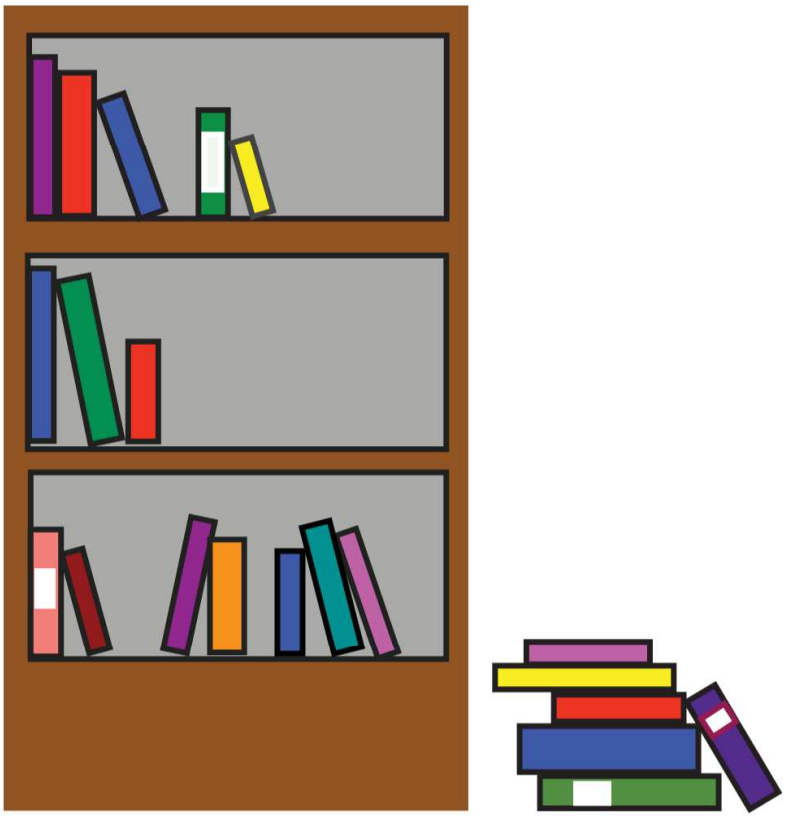
What do all of the pictures have in common?



Which elephant is fourth?

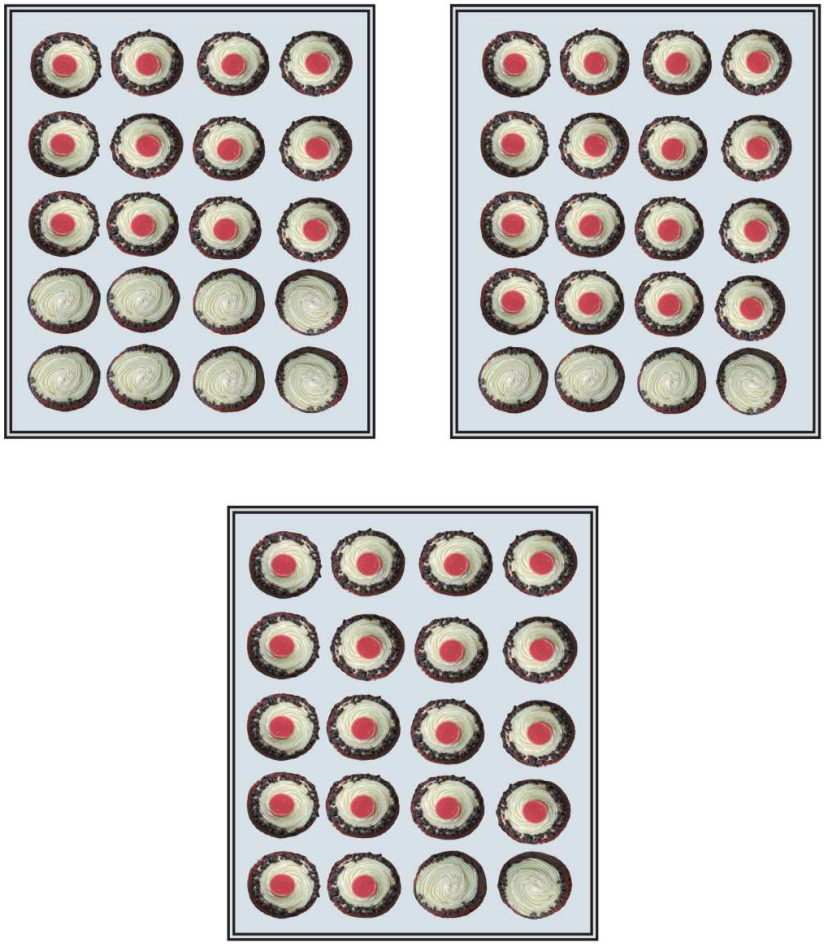


What different addition sentences might tell how many books will be on each shelf after putting away the books on the floor?



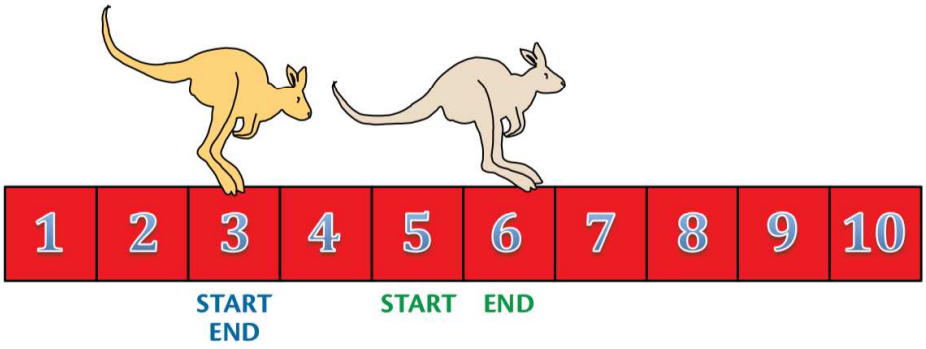
ADDITION AS COMBINING • Grades K–2 • CCSS K.OA

What does each picture show about addition?

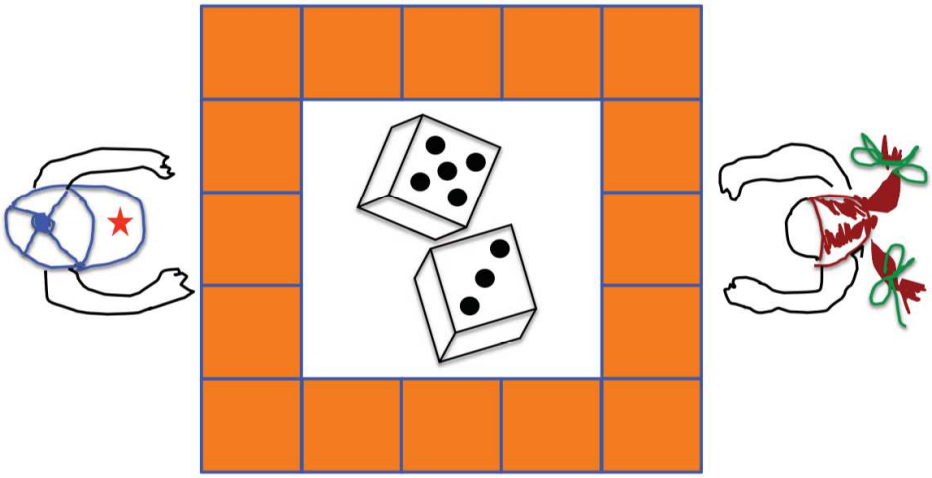


ADDITION TO DESCRIBE PART-PART-WHOLE SITUATIONS • Grades K–2 • CCSS 1.OA

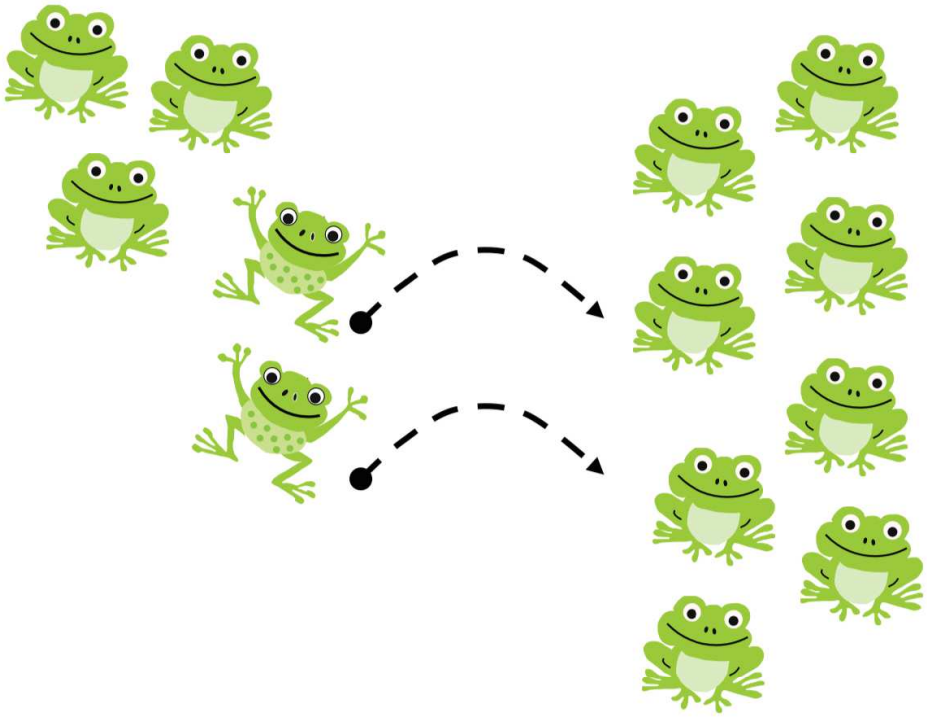
The kangaroos started at 3 and 5.
The picture shows where they landed after one jump.
What number sentences tell about each kangaroo's jump?



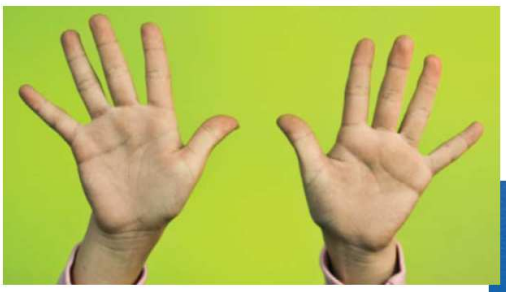
Why might Amy and Aaron write different number sentences to tell what the dice roll is?



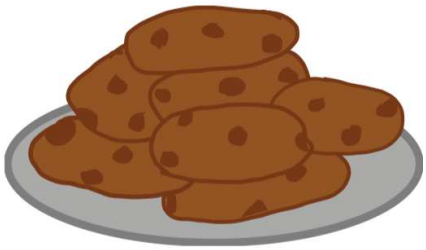
How are the number sentences you write to tell about all of the frogs the same and different after the two frogs move over?

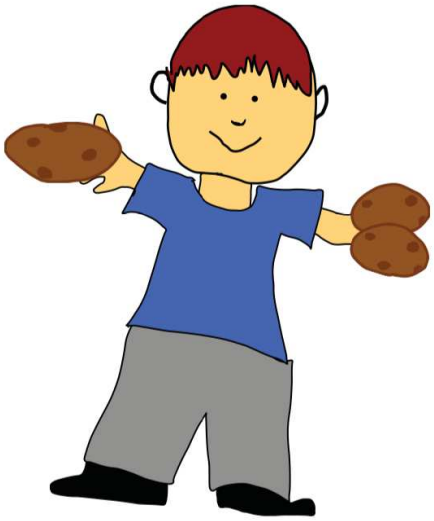


When you include or take away an extra 10 fingers, what about the total number of fingers does not change? Why?

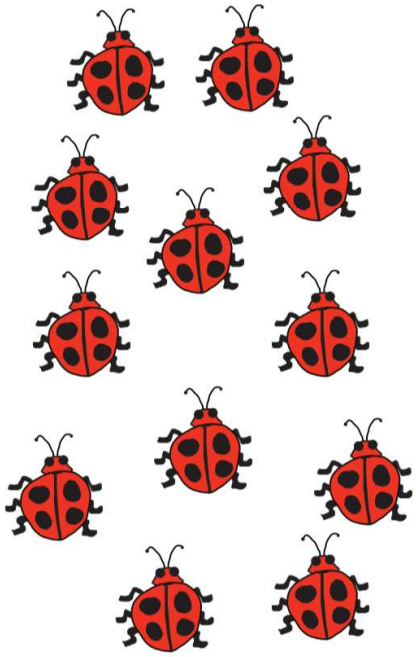


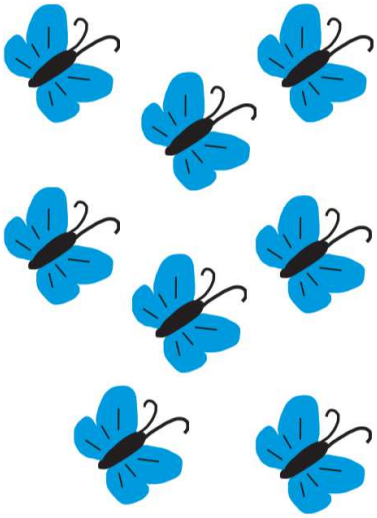
Decide how many cookies are probably on the plate.
What number sentence would you use to describe what happened when Caelan took his cookies?



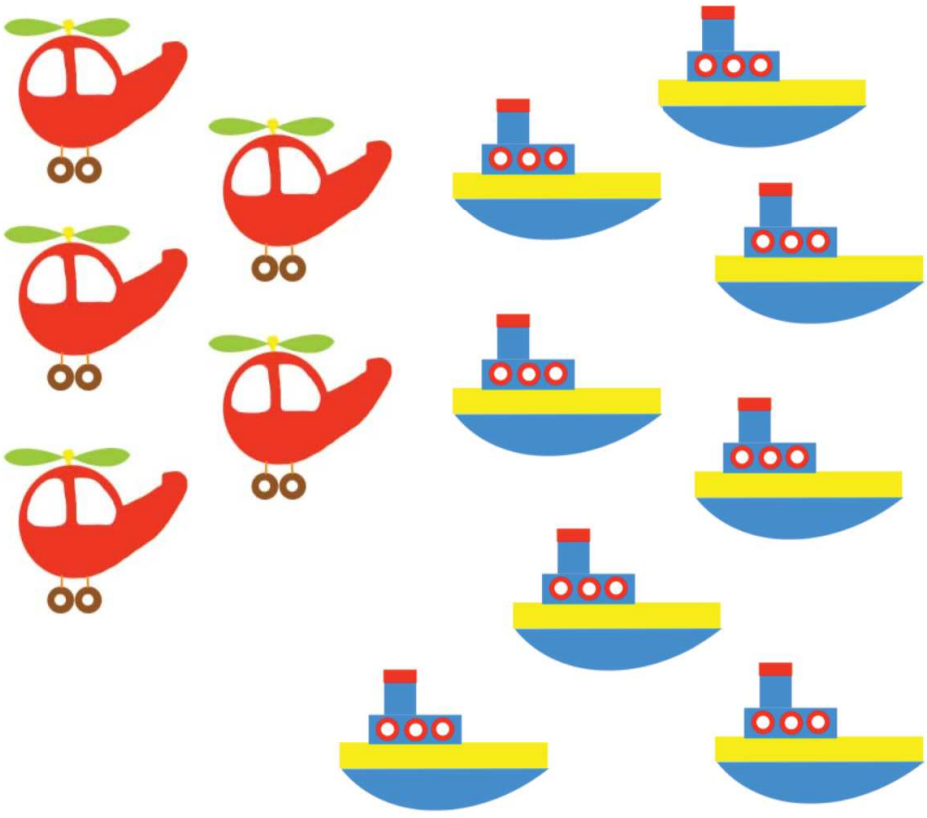


What does 12 – 8 tell you about the insects?

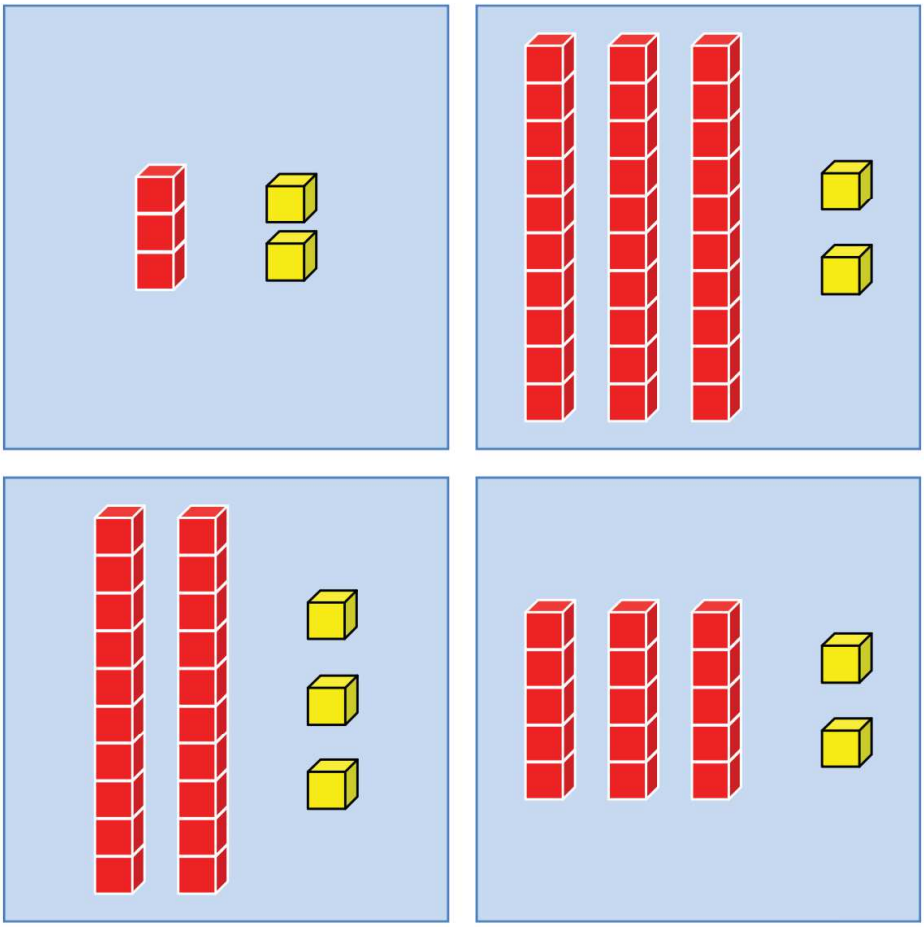




Does this picture show addition or subtraction or both?



Which section has 32 cubes?
How do you know?



NAMING TWO-DIGIT NUMBERS • Grades K–2 • CCSS 1.NBT

When you write the numbers for each section, how are the numbers alike and how are they different?