

NUMERACY RICH ACTIVITIES PRIMARY

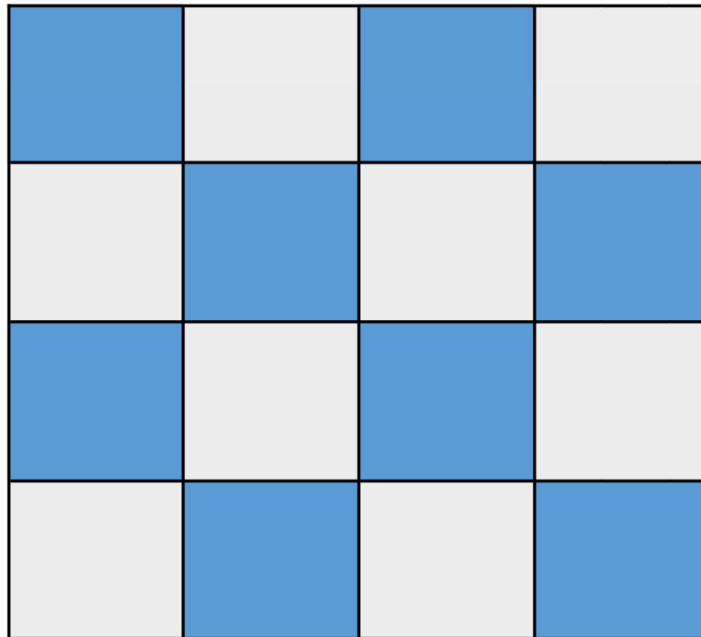


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Checkerboard N1, N9, N10, PR3, SS8

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?

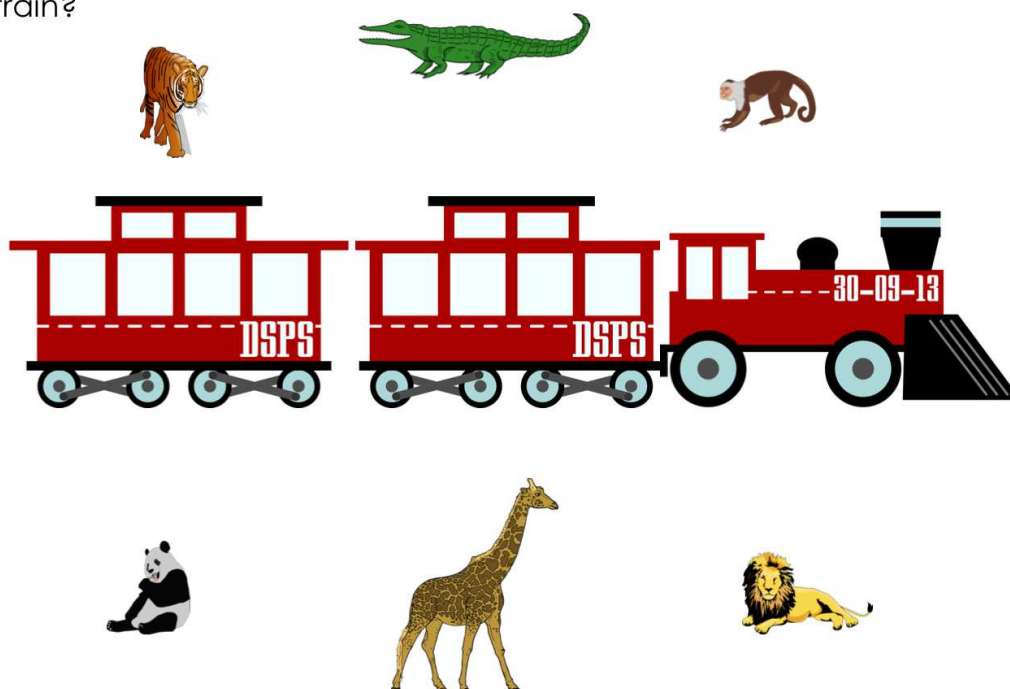
BACK

#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.

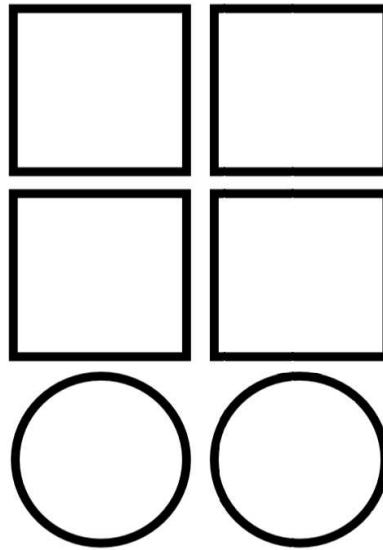
Notes:

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

#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>

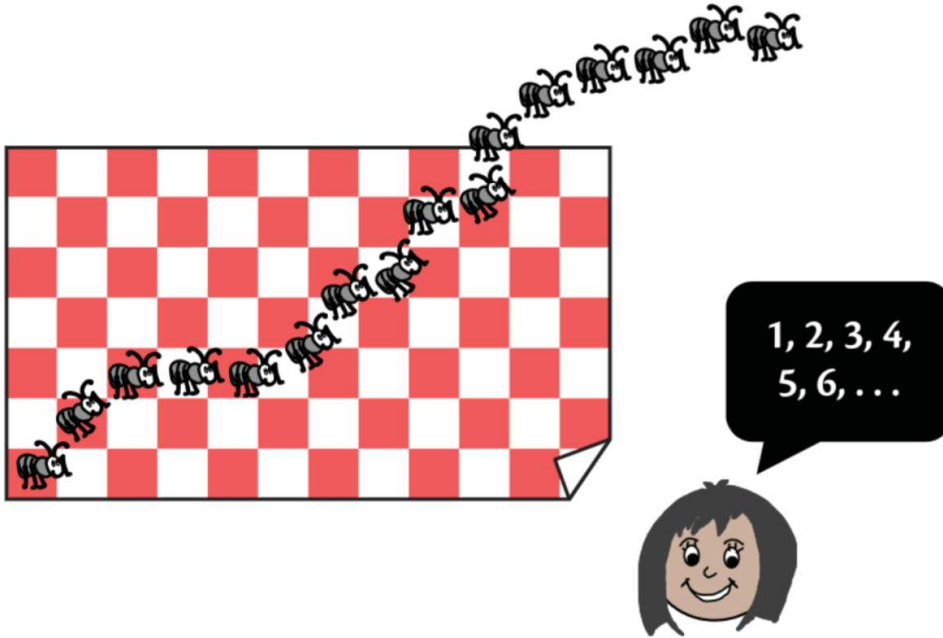
Extension:

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

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#6: Sticker Rewards

Problem:

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

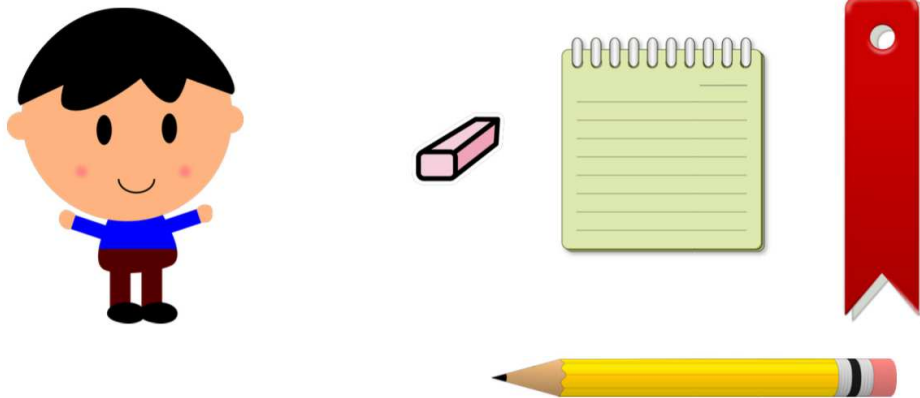
1 sticker - bookmark

2 stickers - eraser

3 stickers - pencil

4 stickers - notepad

What can Dylan get with his 10 stickers?



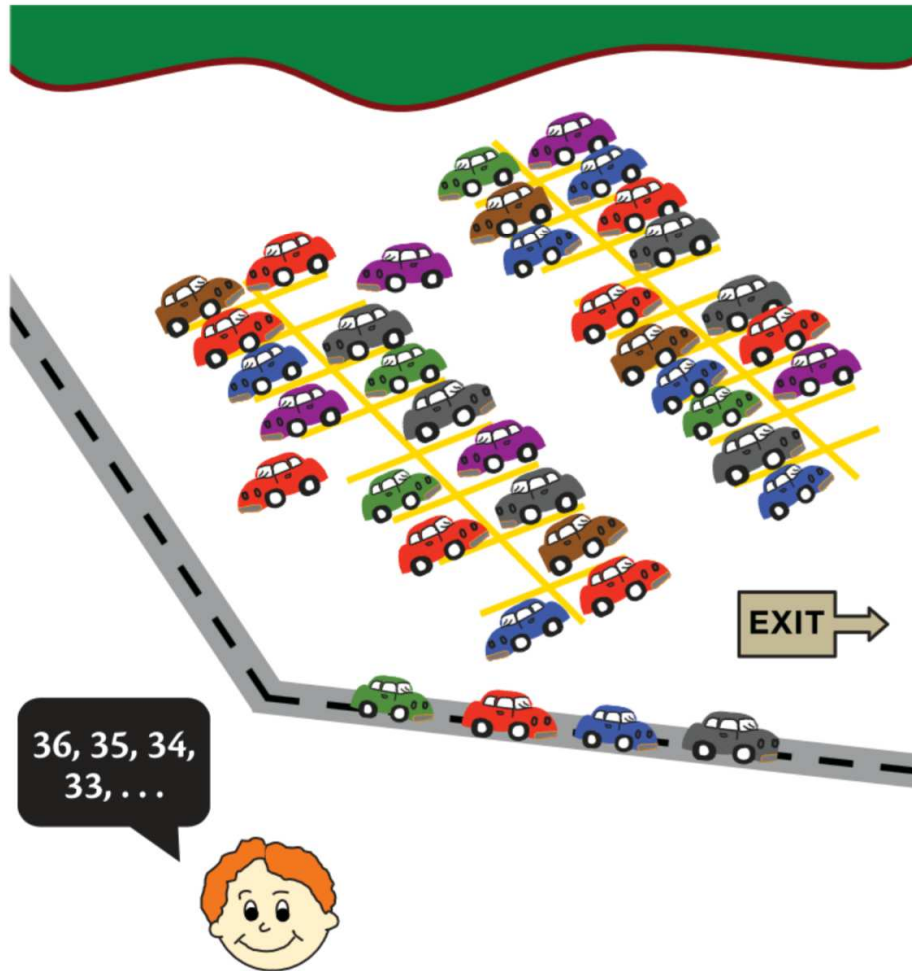
Credit: Adapted from *Problem Solving Deck A Cards.pdf*. Retrieved from <http://maccss.ncdipi.wikispaces.net/file/view/Problem%20Solving%20Deck%20A.pdf/554108028/Problem%20Solving%20Deck%20A.pdf>

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?

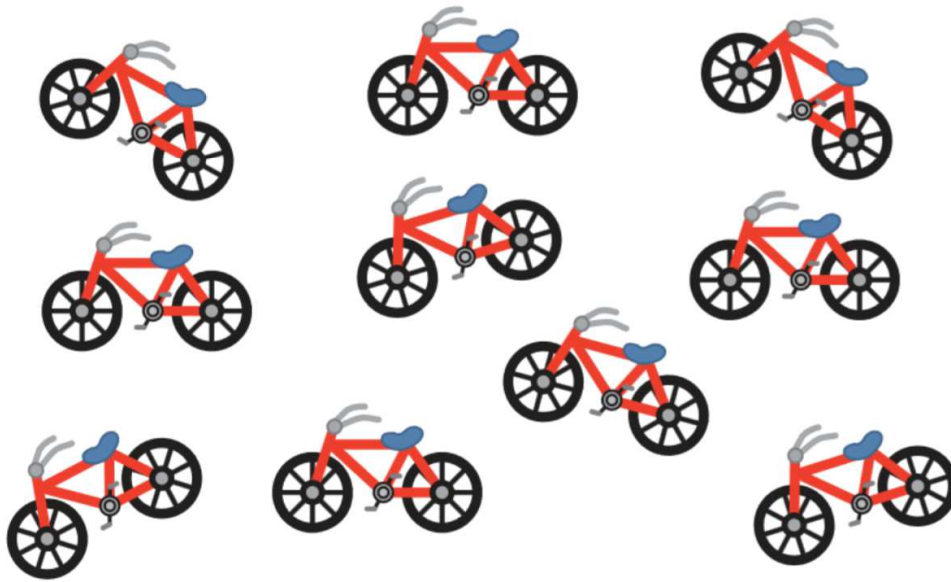


COUNTING BACK BY 1s • Grades K-2 • CCSS 1.OA

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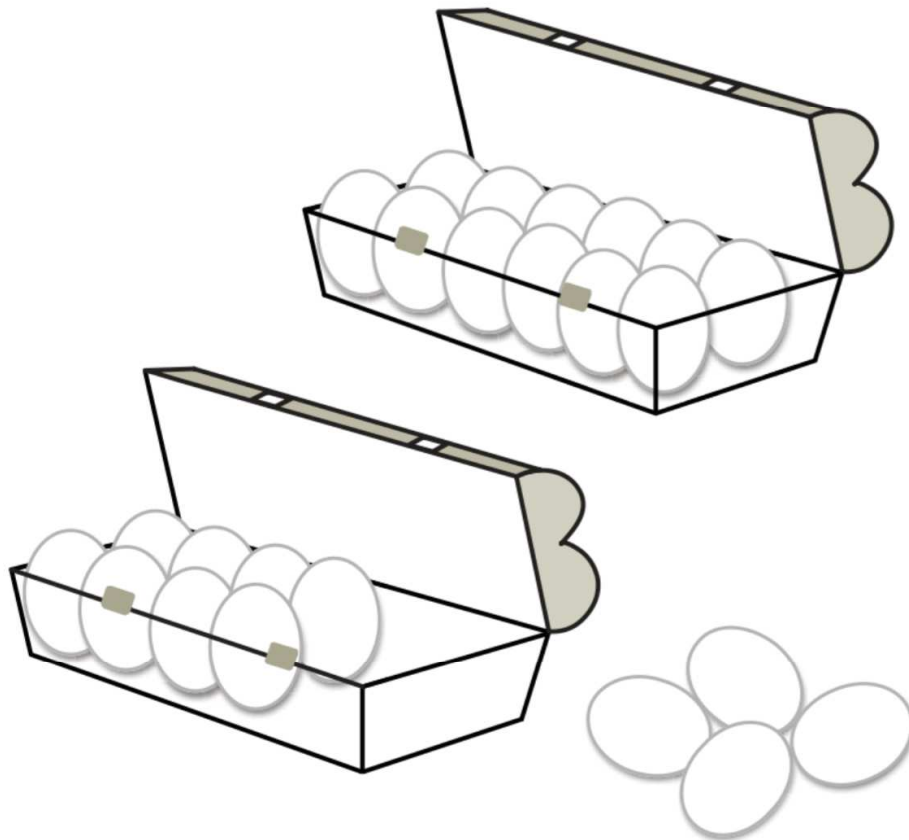
What is the best way to count the bicycle wheels?



COUNTING UP BY 2s • Grades K-2 • CCSS 1.OA

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**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?**

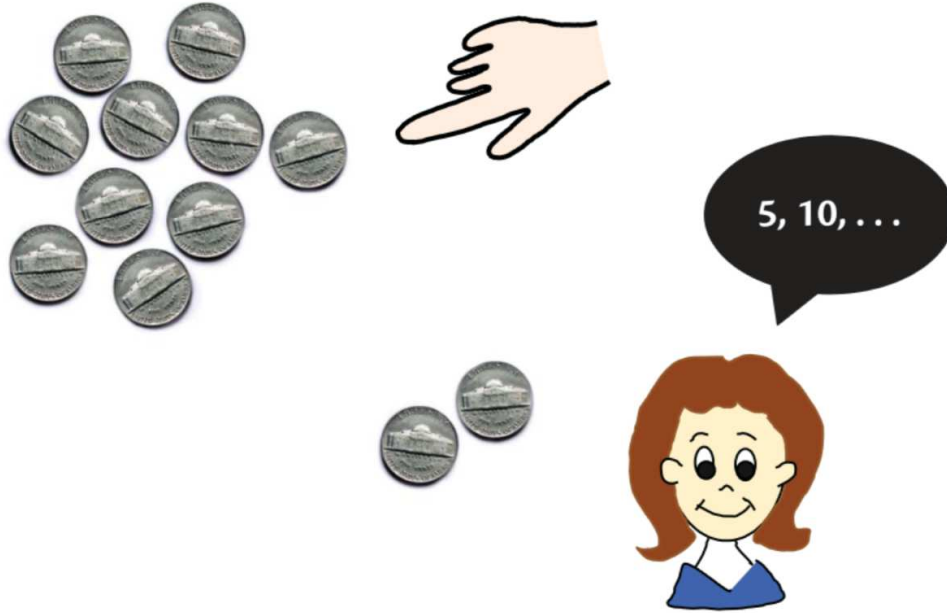


COUNTING BACK BY 2s • Grades K–2 • CCSS 1.OA

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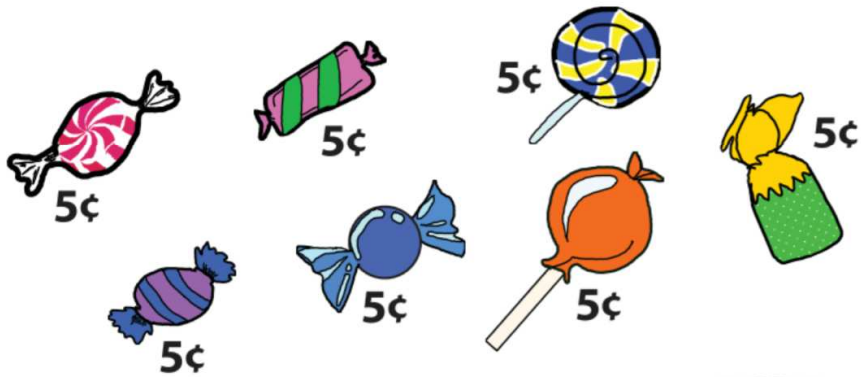
Count to know how much money Keesha has.



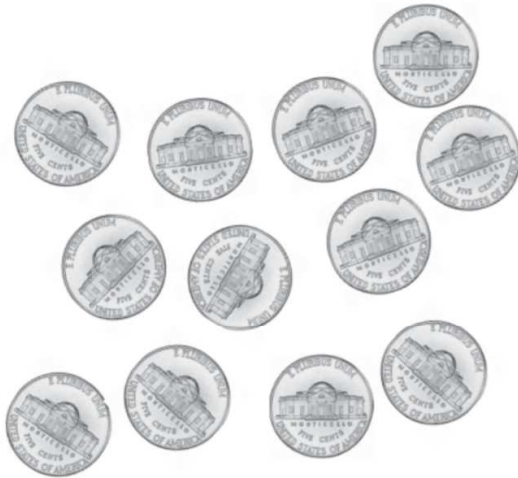
COUNTING UP BY 5s • Grades K–2 • CCSS 2.NBT

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



I have 60¢



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

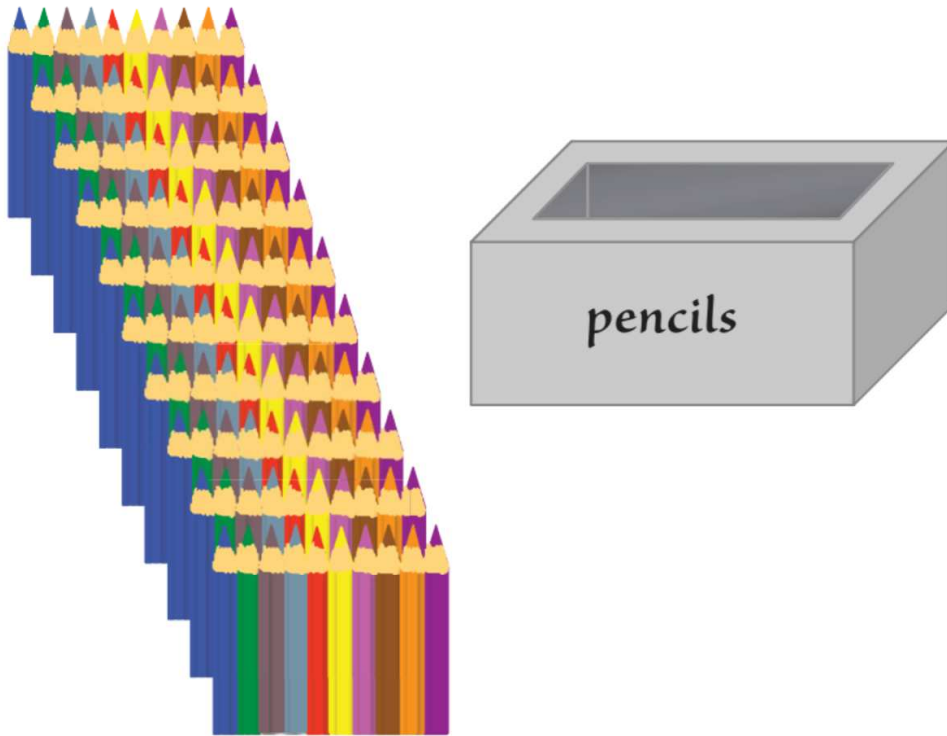
Count the number of fingers,
one set of handprints at a time.



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

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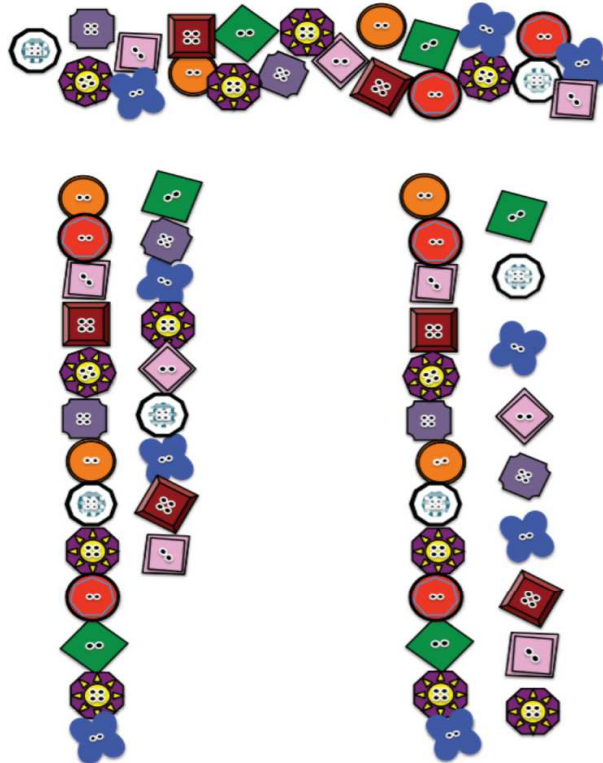
There are 100 pencils. You put the pencils from one row at a time into the box. Count to tell how many pencils are left outside of the box each time that one row of pencils is removed.



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

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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?



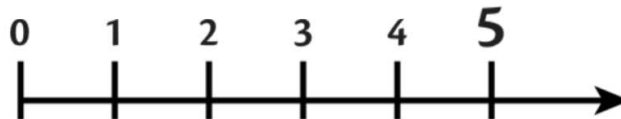
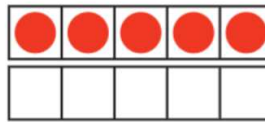
COMPARING NUMBERS BY MATCHING • Grades K–2 • CCSS K.CC

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What does each picture tell you about 5?



FIVE

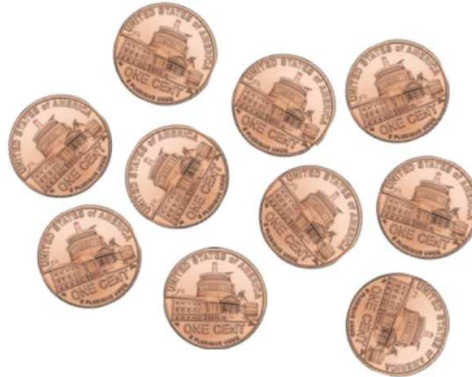
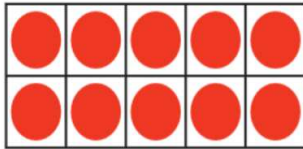
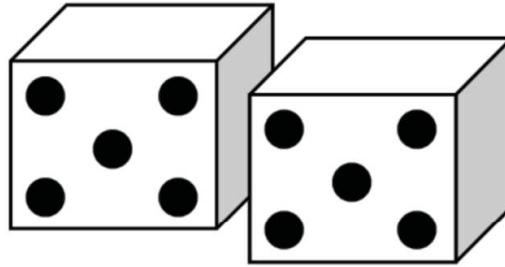
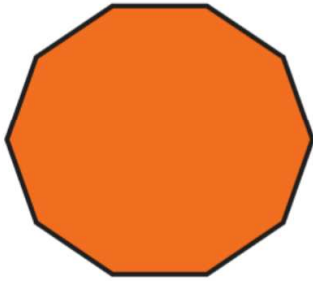


BENCHMARK NUMBERS: ALL ABOUT 5 • Grades K-2 • CCSS K.CC

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What do all of the pictures
have in common?

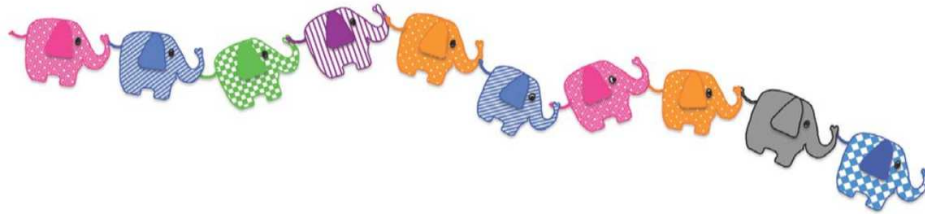


BENCHMARK NUMBERS: ALL ABOUT 10 • Grades K–2 • CCSS K.CC

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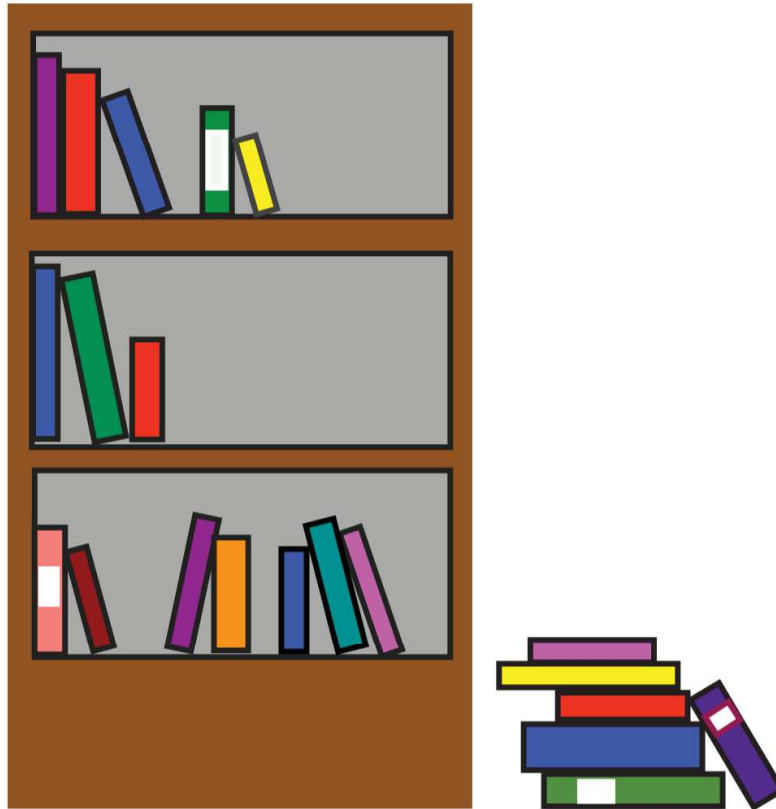
Which elephant is fourth?



ORDINAL NUMBERS • Grades K–2 • CCSS K.CC

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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

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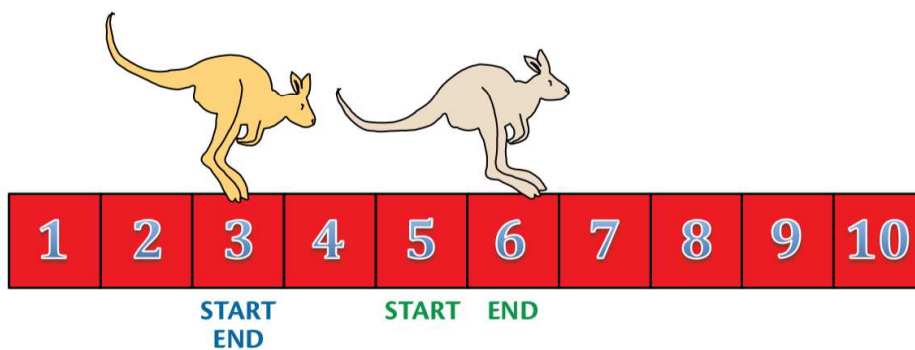
What does each picture show about addition?



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

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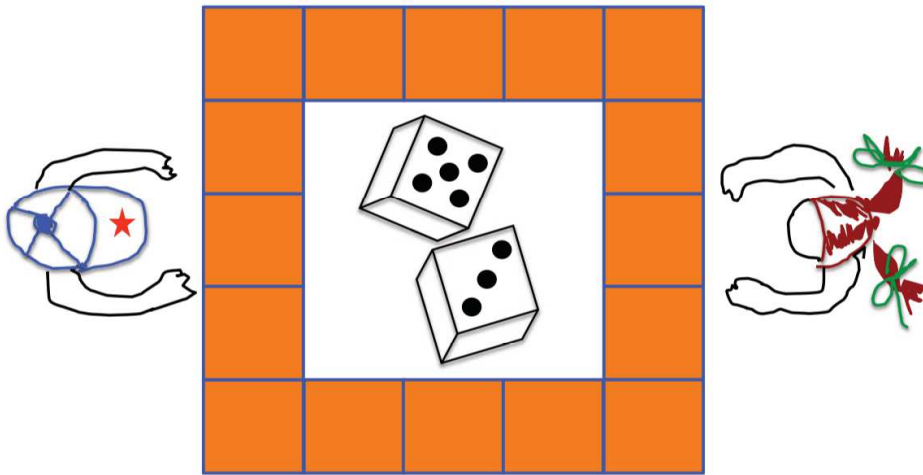
The kangaroos started at 3 and 5.
The picture shows where they landed
after one jump.
What number sentences tell about
each kangaroo's jump?



ADDING 0 AND ADDING 1 • Grades K–2 • CCSS 1.OA

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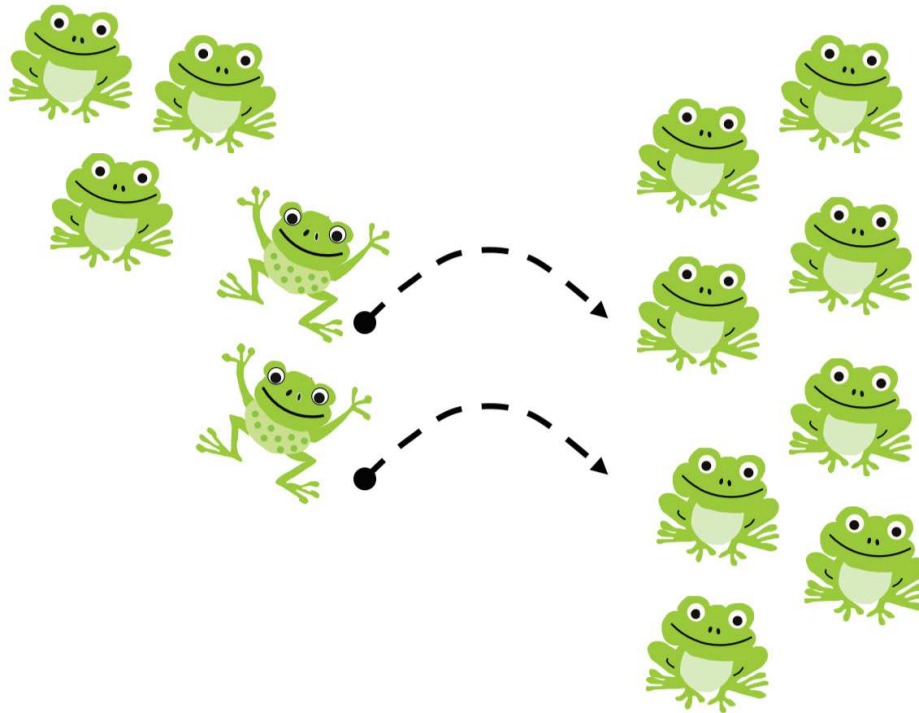
Why might Amy and Aaron write different number sentences to tell what the dice roll is?



ADDITION: COMMUTATIVITY • Grades K–2 • CCSS 1.OA

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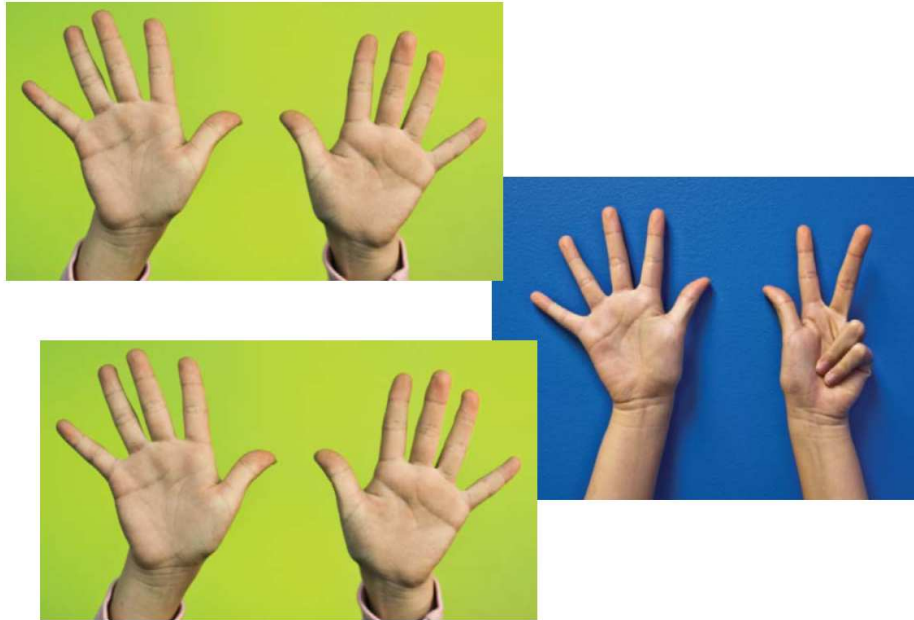
How are the number sentences
you write to tell about all of the frogs
the same and different after
the two frogs move over?



ADDITION: CHANGING ADDENDS, BUT NOT THE SUM • Grades K–2 • CCSS 1.OA

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



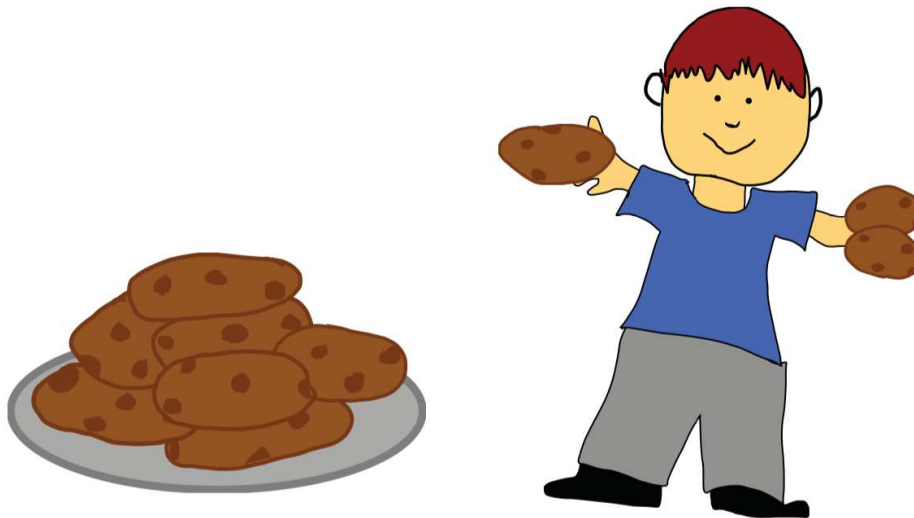
ADDING OR SUBTRACTING 10 • Grades K–2 • CCSS 1.NBT

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

Copy

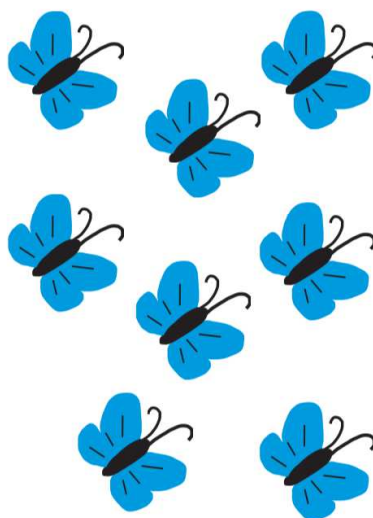
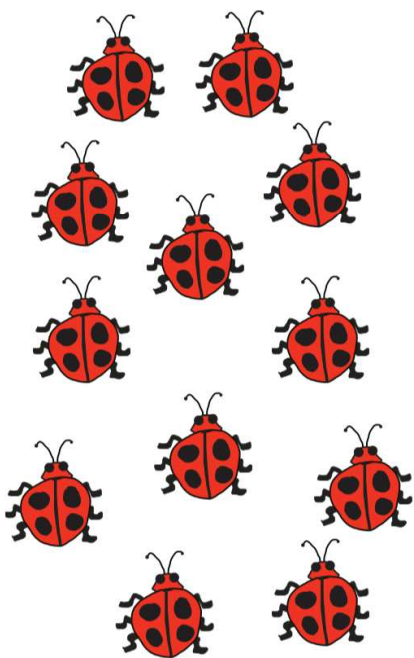
Select All



SUBTRACTION AS TAKING AWAY • Grades K–2 • CCSS K.OA

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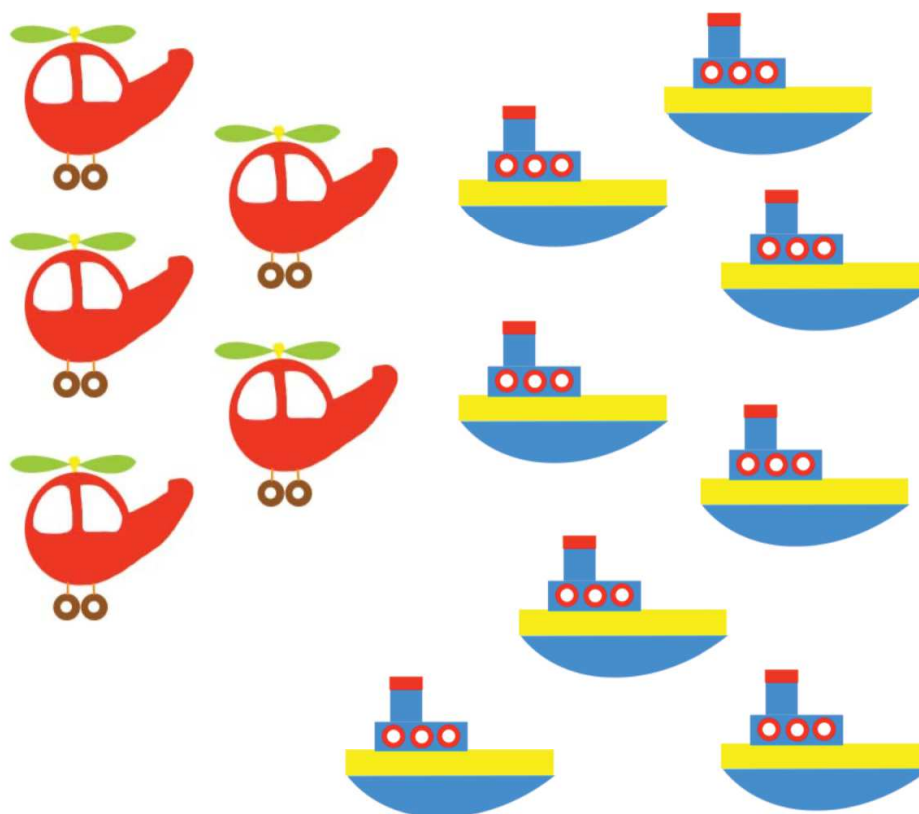
What does $12 - 8$ tell you
about the insects?



SUBTRACTION TO COMPARE • Grades K–2 • CCSS 1.OA

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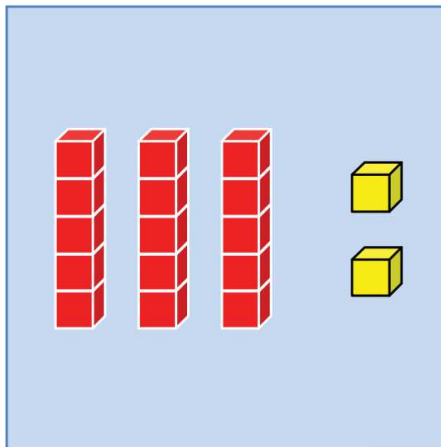
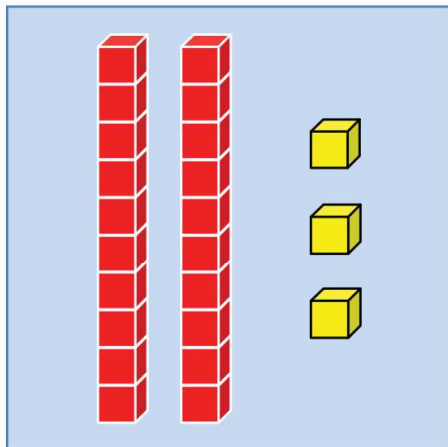
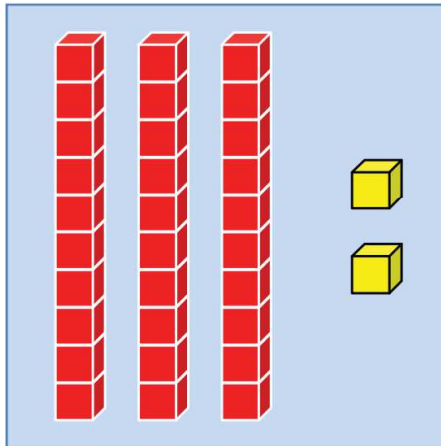
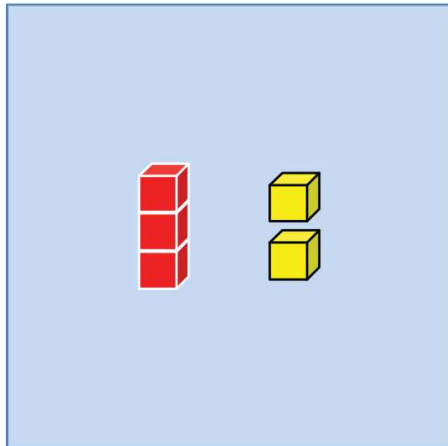
Does this picture show
addition or subtraction or both?



RELATING ADDITION AND SUBTRACTION • Grades K–2 • CCSS 1.OA

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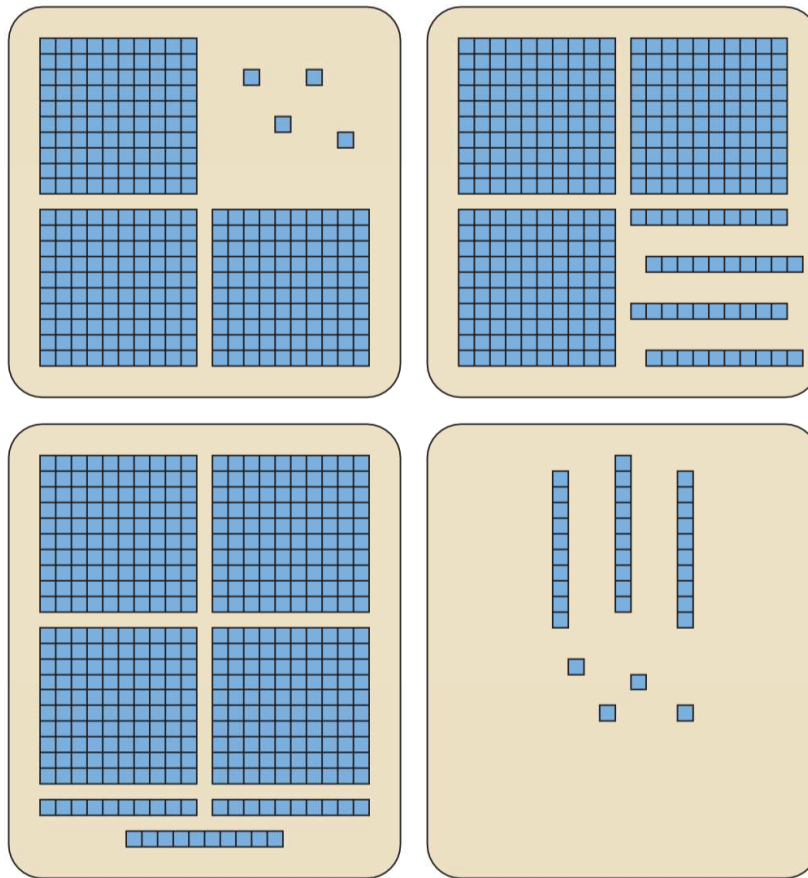
Which section has 32 cubes?
How do you know?



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

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



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

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