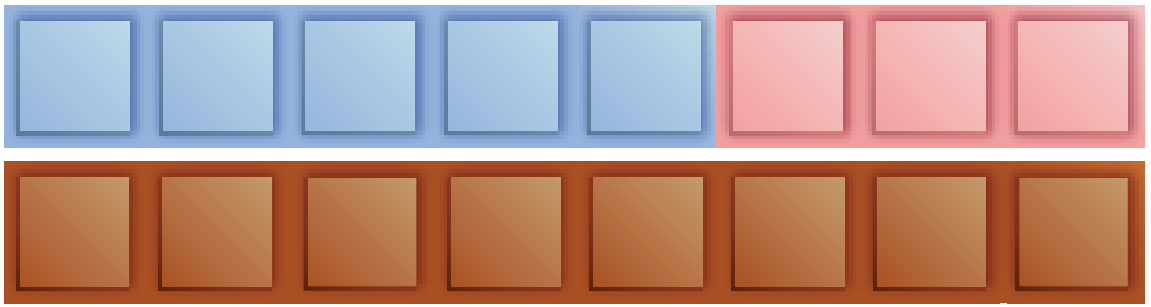
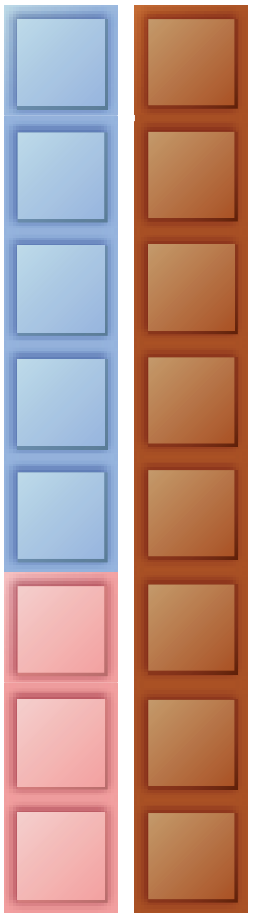
Build, Write, Say: Build Horizontal

Build



Build, Write, Say: Build Vertical

Build

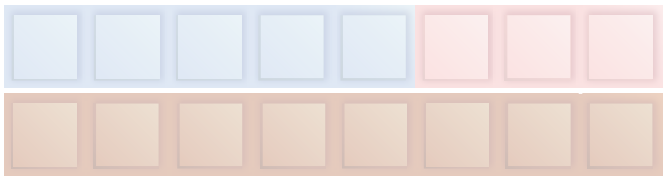


Build, Write, Say: Write Horizontal

Write

$$5 + 3 = 8$$

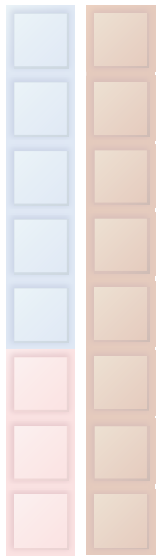
Build



Build, Write, Say: Write Vertical

Write

Build



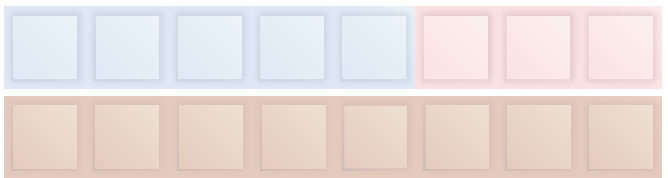
$$\begin{array}{r} 5 \\ +\ 3 \\ \hline 8 \end{array}$$

Build, Write, Say: Say

Say

“Five plus three equals eight.”

Build



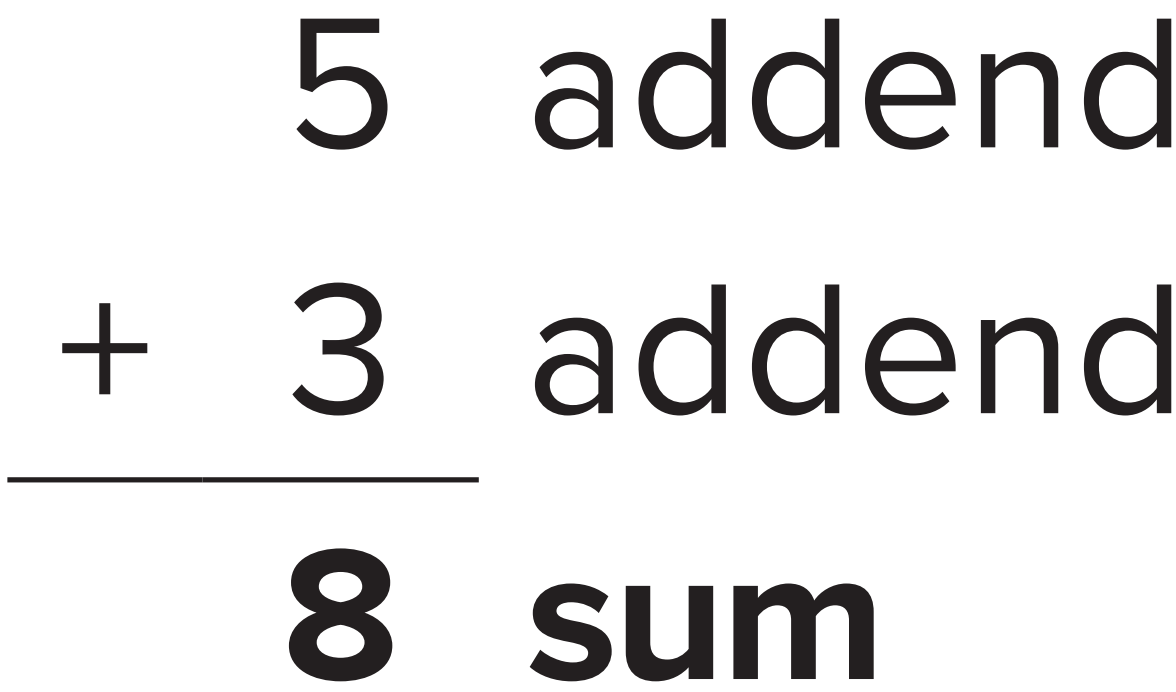
Write

$5 + 3 = 8$

Addition Terms: Horizontal

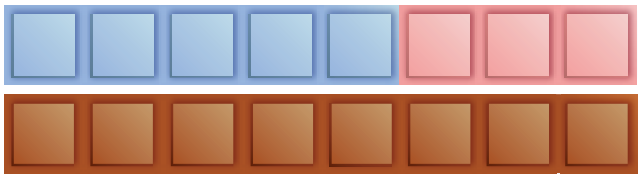
5	+	3	=	**8**
addend		addend		**sum**

Addition Terms: Vertical



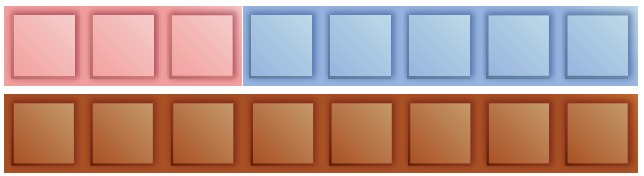
Commutative Property of Addition: Horizontal

Changing the order of the addends does not change the sum.



$5 + 3 = 8$

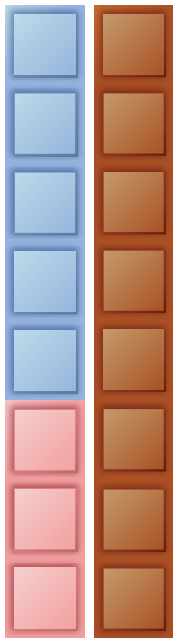
or



$3 + 5 = 8$

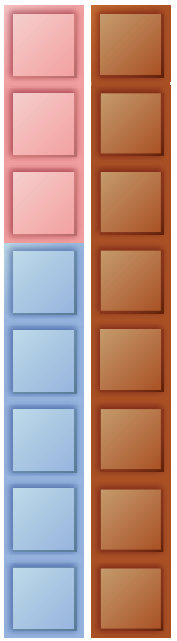
Commutative Property of Addition: Vertical

Changing the order of the addends does not change the sum.



$$\begin{array}{r} 5 \\ +\ 3 \\ \hline 8 \end{array}$$

or



$$\begin{array}{r} 3 \\ +\ 5 \\ \hline 8 \end{array}$$

Addition: +2 Horizontal

Build, Write, and Say the fact.

$5 + 2$

“Five plus two.”

Think:
What number is 2 greater than 5?

7

Build, Write, and Say the fact and answer.

$5 + 2 = 7$

“Five plus two is the same as, or equal to, seven.”

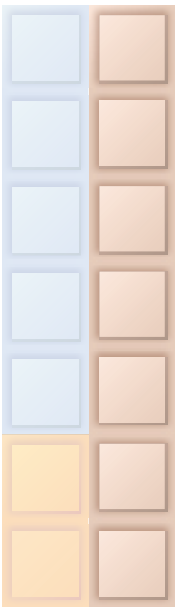
Addition: +2 Vertical

Build, Write, and Say the fact.

$$\begin{array}{r} 5 \\ +\ 2 \\ \hline \end{array}$$

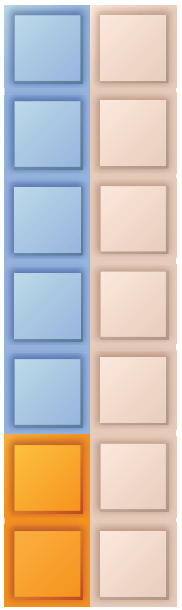
“Five plus two.”

Think: What number is 2 greater than 5?



7

Build, Write, and Say the fact and answer.



$$\begin{array}{r} 5 \\ +\ 2 \\ \hline 7 \end{array}$$

“Five plus two is the same as, or equal to, seven.”

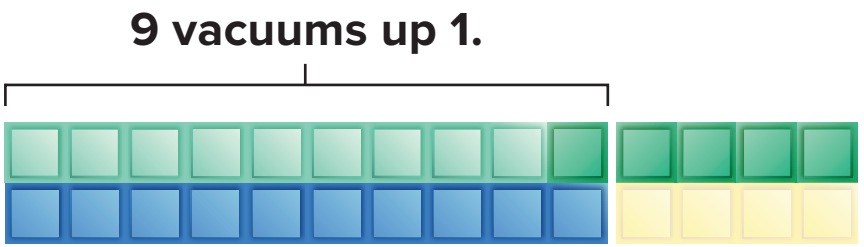
Addition: +9 Horizontal

Build, Write, and Say the fact.

$9 + 5$

“Nine plus five.”

9 wants to be 10.



Build, Write, and Say the fact and answer.

9 + 5 = 14

$9 + 5 = 10 + 4 = 14$

“Nine plus five is equal to ten plus four, or fourteen.”

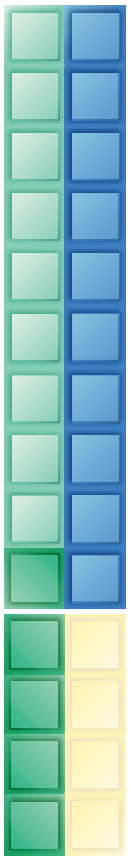
Addition: +9 Vertical

Build, Write, and Say the fact.

$$\begin{array}{r} 9 \\ +\ 5 \\ \hline \end{array}$$

"Nine plus five."

9 wants to be 10.



Build, Write, and Say the fact and answer.

9 + 5 = 14

$$\begin{array}{r} 9 \\ +\ 5 \\ \hline 14 \end{array} = \begin{array}{r} 10 \\ +\ 4 \\ \hline 14 \end{array}$$

"Nine plus five is equal to ten plus four, or fourteen."

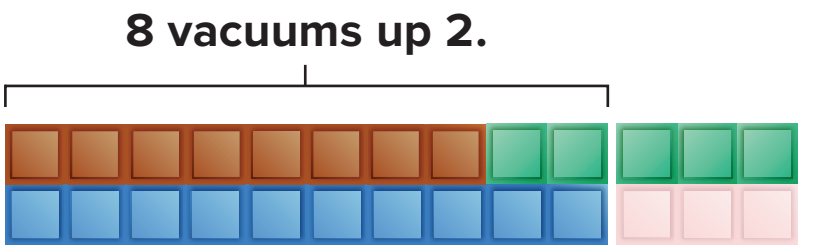
Addition: +8 Horizontal

Build, Write, and Say the fact.

$8 + 5$

“Eight plus five.”

8 wants to be 10.



Build, Write, and Say the fact and answer.

8 + 5 = 13

$8 + 5 = 10 + 3 = 13$

“Eight plus five is equal to ten plus three, or thirteen.”

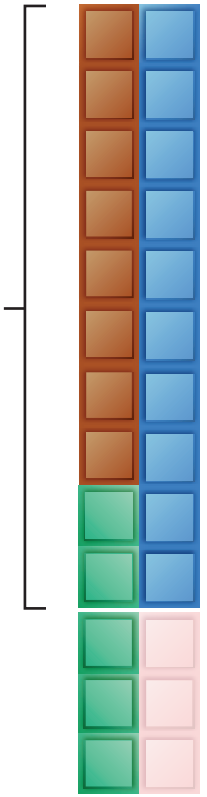
Addition: +8 Vertical

Build, Write, and Say the fact.

$$\begin{array}{r} 8 \\ +\ 5 \\ \hline \end{array}$$

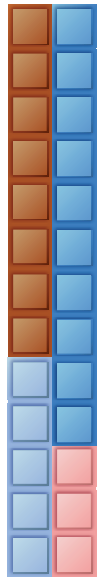
"Eight plus five."

8 wants to be 10.



Build, Write, and Say the fact and answer.

8 + 5 = 13



$$\begin{array}{r} 8 \\ +\ 5 \\ \hline 13 \end{array} = \begin{array}{r} 10 \\ +\ 3 \\ \hline 13 \end{array}$$

"Eight plus five is equal to ten plus three, or thirteen."

Addition: Doubles Horizontal

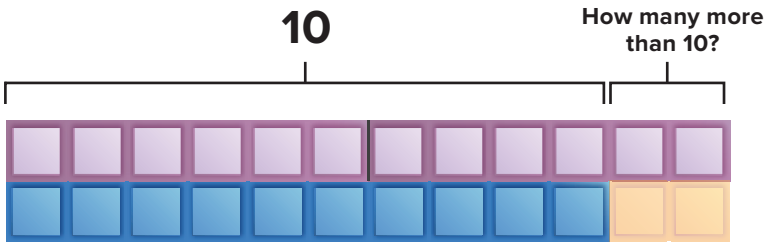
For use with facts 5 + 5, 6 + 6, 7 + 7

Build, Write, and Say the fact.

$6 + 6$

“Six plus six.”

Look for 10.



Build, Write, and Say the fact and answer.

6 + 6 = 12

$6 + 6 = 10 + 2 = 12$

“Six plus six is equal to ten plus two, or twelve.”

Addition: Doubles Vertical

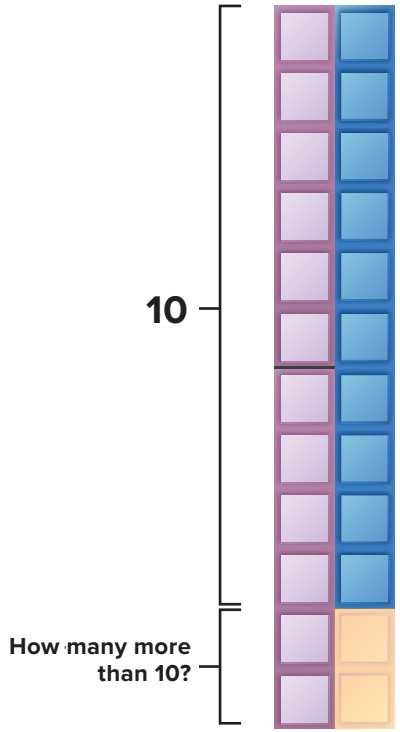
For use with facts 5 + 5, 6 + 6, 7 + 7

Build, Write, and Say the fact.

$$\begin{array}{r} 6 \\ +\ 6 \\ \hline \end{array}$$

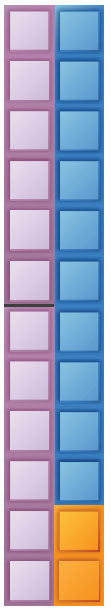
“Six plus six.”

Look for 10.



Build, Write, and Say the fact and answer.

6 + 6 = 12

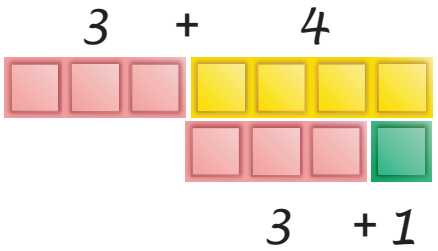


$$\begin{array}{r} 6 \\ +\ 6 \\ \hline 12 \end{array} \quad = \quad \begin{array}{r} 10 \\ +\ 2 \\ \hline 12 \end{array}$$

“Six plus six is equal to ten plus two, or twelve.”

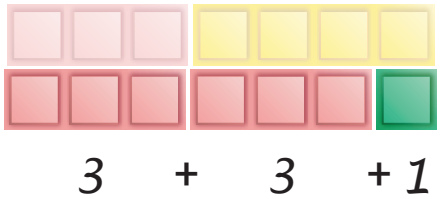
Addition: Doubles + 1

Build, Write, and Say the fact.
Decompose the greater addend.



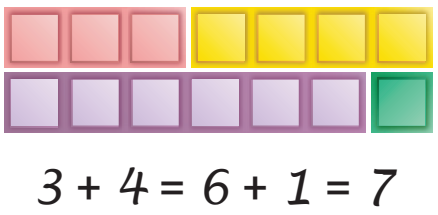
"Three plus four."

Create the doubles fact + 1.
3 + 4 = 3 + 3 + 1



Build, Write, and Say the fact and answer.

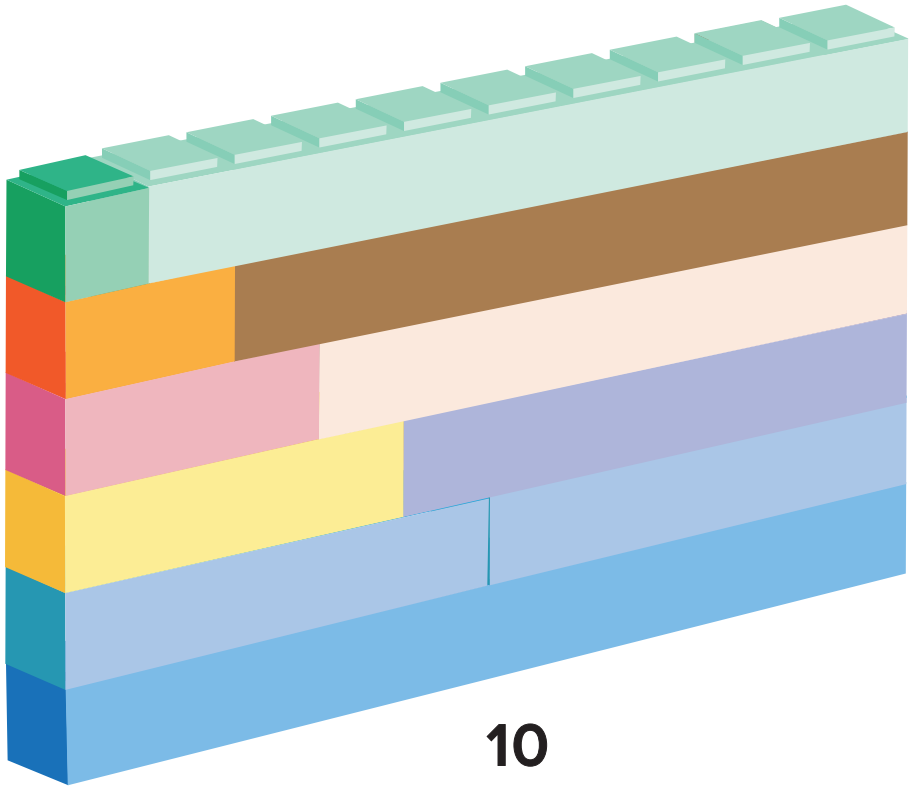
3 + 4 = 7



"Three plus four is equal to six plus one, or seven."

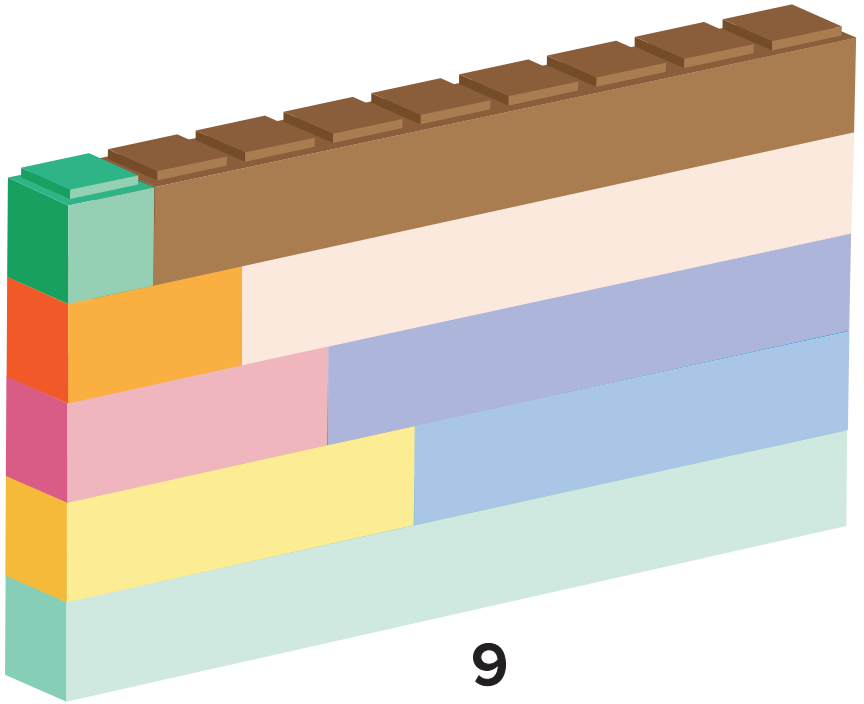
Replace the 6 + 1 with the 7-block as proficiency with the strategy increases.

Making 10



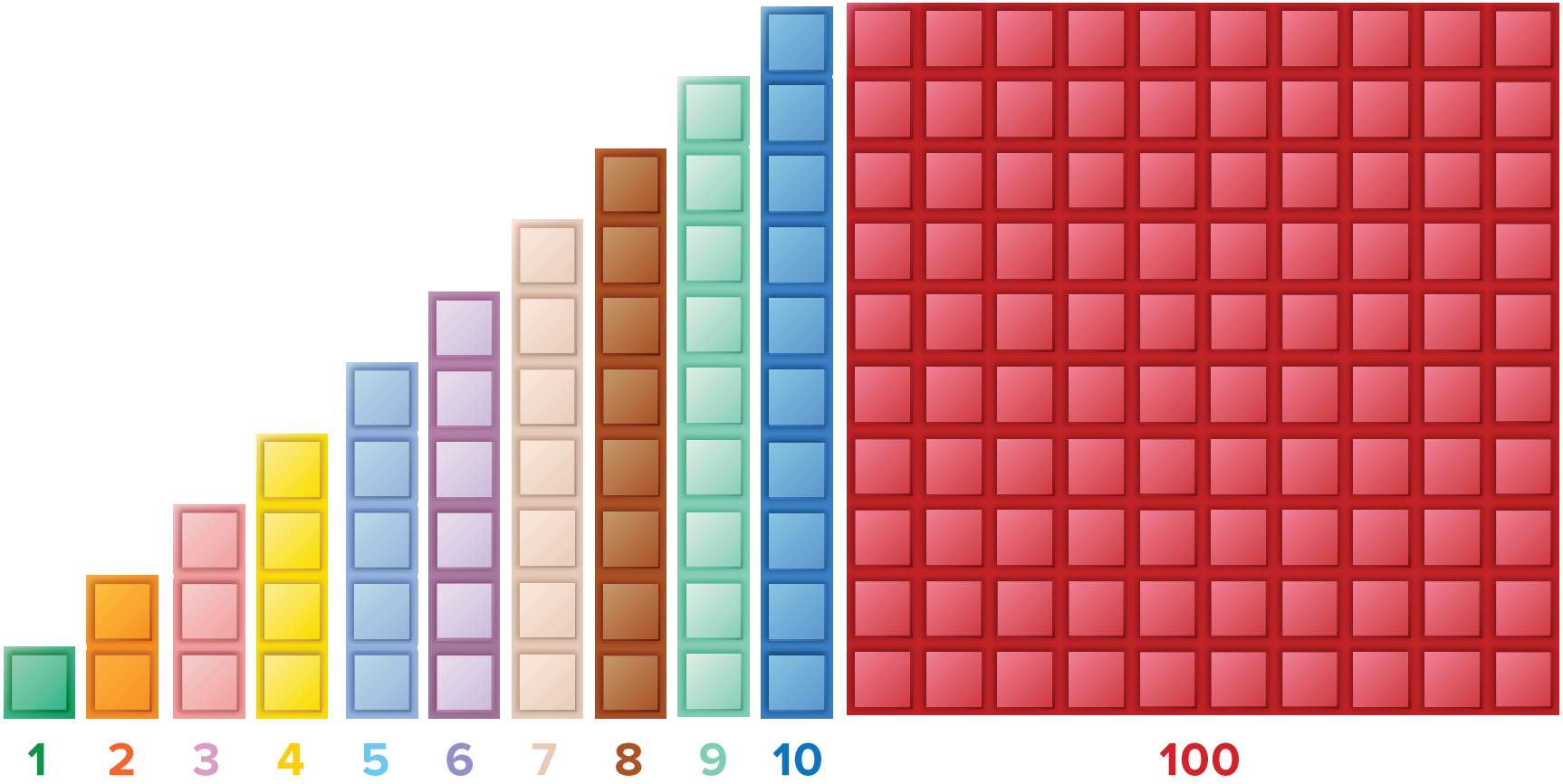
Each row has two addends that make 10.
The bottom row is a 10-block that represents the sum, 10.

Making 9



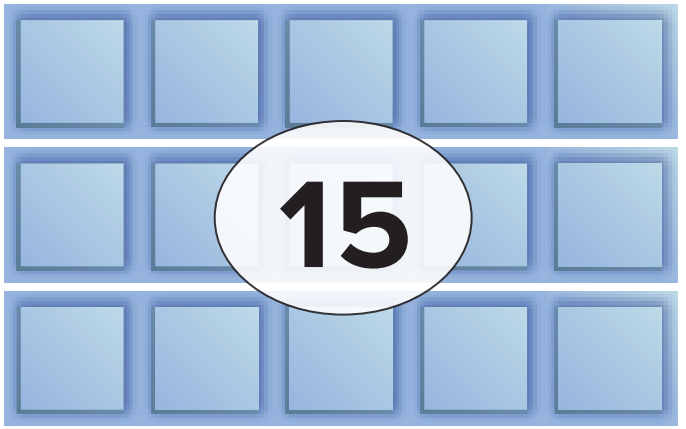
Each row has two addends that make 9.
The bottom row is a 9-block that represents the sum, 9.

Integer Block Colors and Values



Rectangles, Factors, and Product

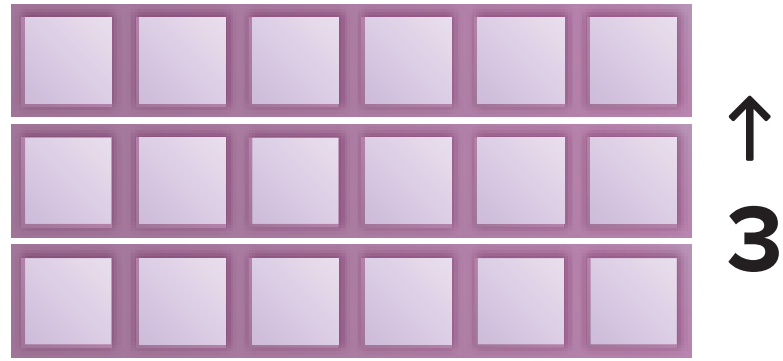
The rectangle shows 5 × 3 = 15.



The factors are 5 and 3.
The product is 15.

Build, Write, Say

Build



Write

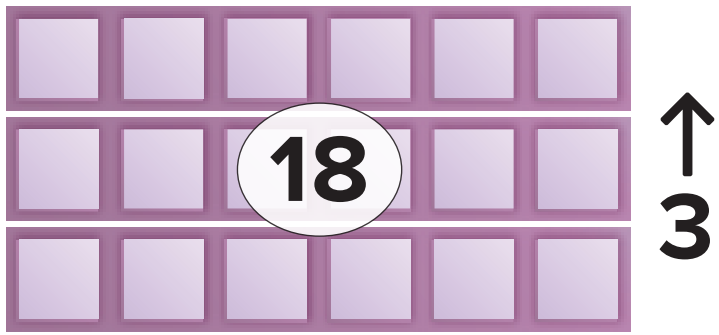
$6 \times 3 = 18$

Say

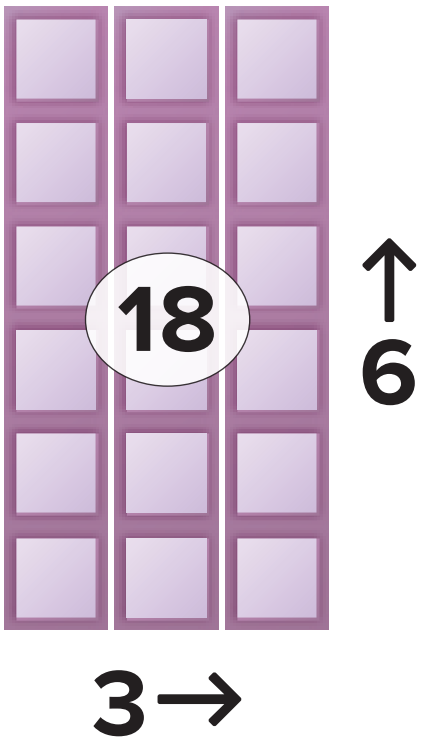
“Six times three equals eighteen.”

Commutative Property of Multiplication

Changing the order of the factors does not change the product.



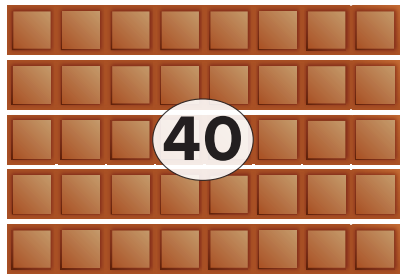
$6 \times 3 = 18$



$3 \times 6 = 18$

To multiply any number by 6: Use the Fives Fact, Add One More Group

For example, to find 8 × 6:



↑ 5

8→

Start with the known fives fact.

$8 \times 5 = 40$

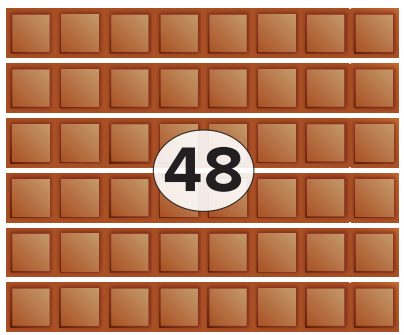
\+

↑ 1

8→

Add one more group.

$8 \times 1 = 8$



↑ 6

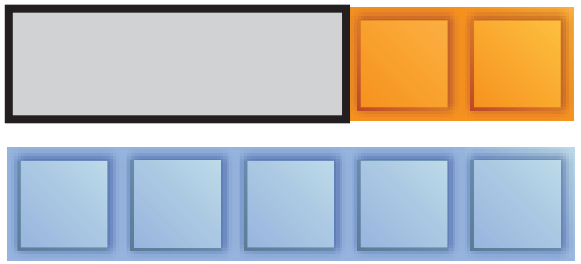
8→

Add the products.

$40 + 8 = 48$

$8 \times 6 = 48$

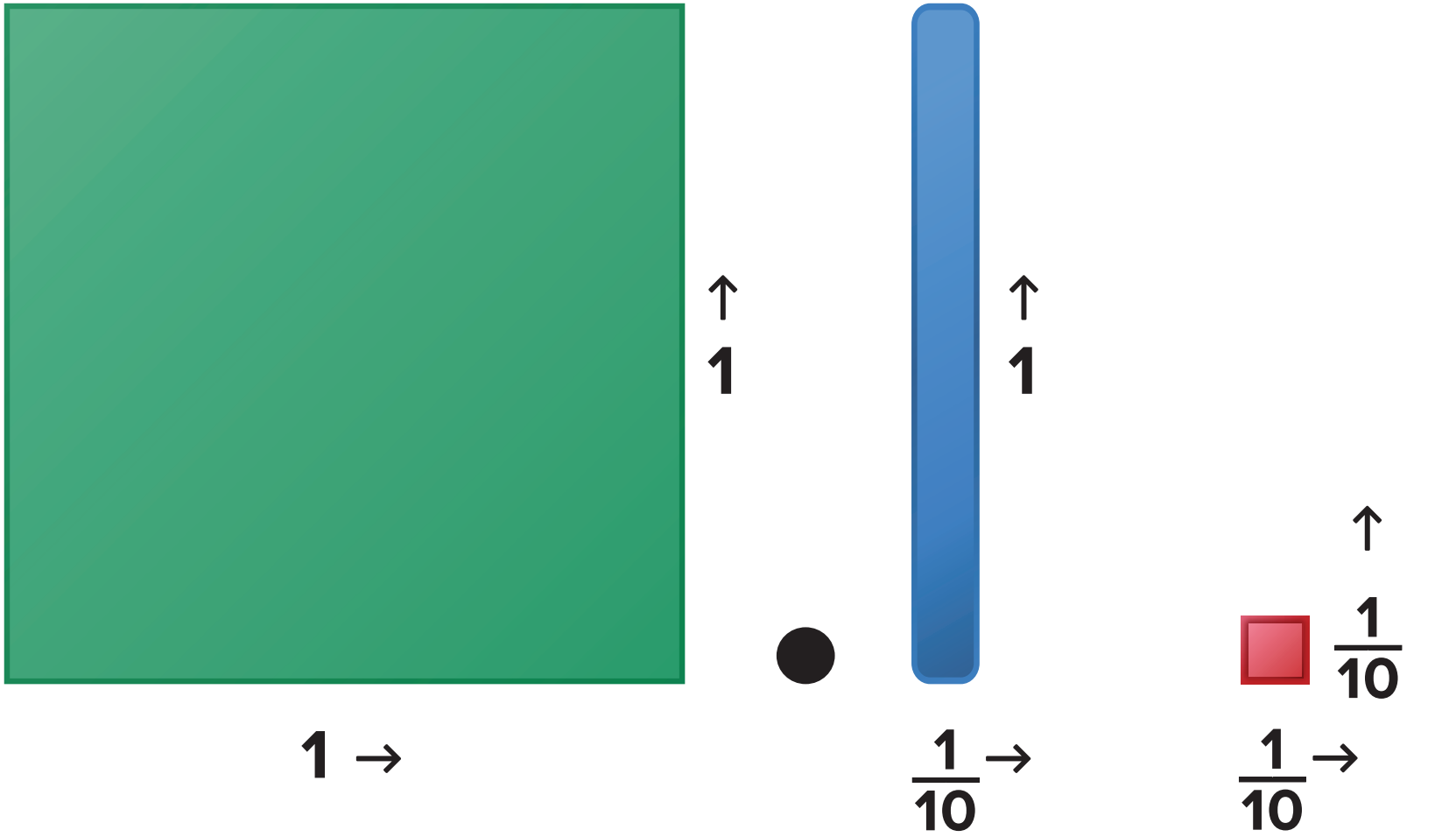
Solve for an Unknown



$$x + 2 = 5$$

"What number plus 2 is the same as 5?"

Decimal Blocks and Place Value



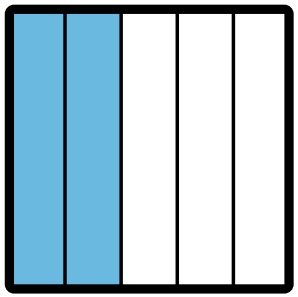
1 unit or 1.00

$\frac{1}{10}$ or 0.10

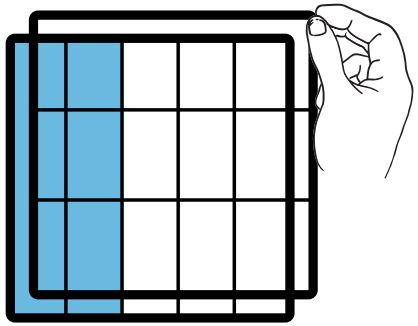
$\frac{1}{100}$ or 0.01

Place values increase (multiply) by a factor of 10 moving to the left and decrease (divide) by a factor of 10 moving to the right.

Rule of Four



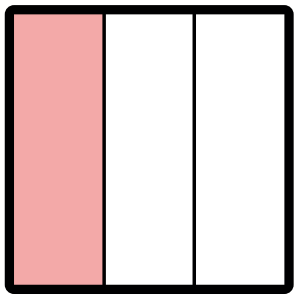
$\frac{2}{5}$



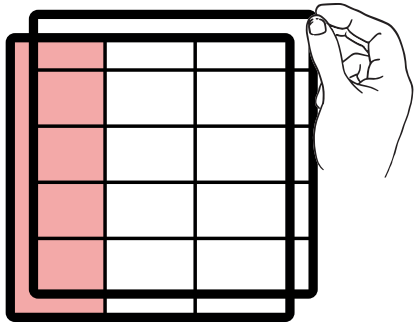
$\frac{3}{3} \times \frac{2}{5} = \frac{6}{15}$

Make the first fraction.

Rotate the overlay of the second fraction 90° and place on top.



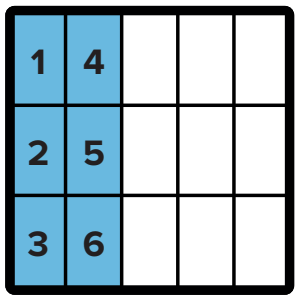
$\frac{1}{3}$



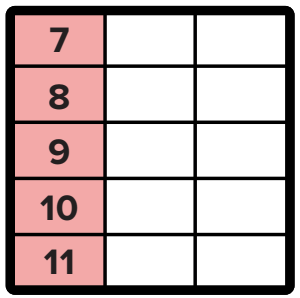
$\frac{5}{5} \times \frac{1}{3} = \frac{5}{15}$

Make the second fraction.

Rotate the overlay of the first fraction 90° and place on top.



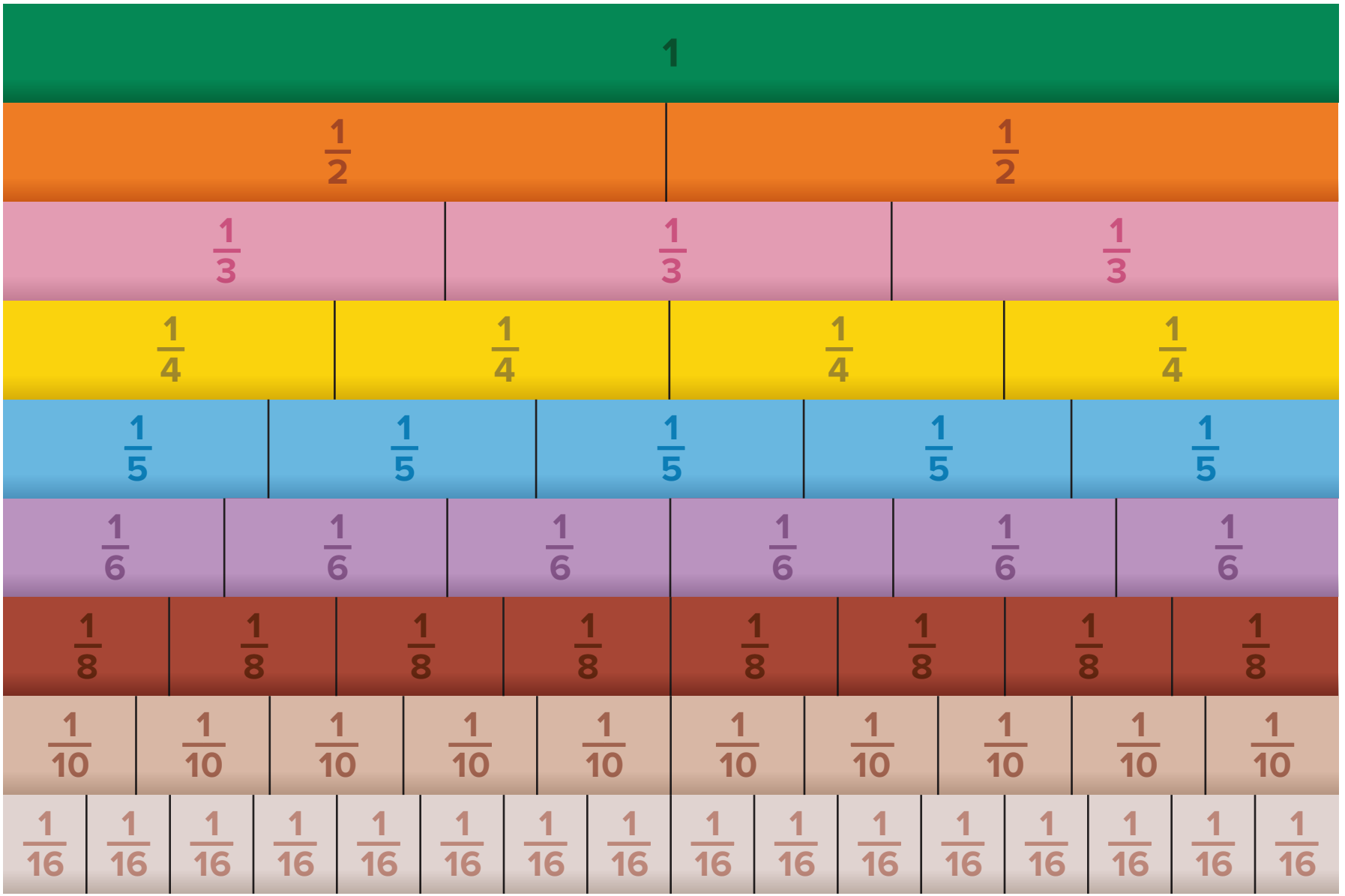
$\frac{6}{15}$ +



$\frac{5}{15} = \frac{11}{15}$

Complete the operation.

Comparing Fractions



Understanding +0

$2 + 0 = 2$ and $0 + 2 = 2$

We have 2 dogs, and we did not get any more .

Understanding +1

$3 + 1 = 4$ and $1 + 3 = 4$

What is 1 more than 3?

If you add 1 to 3, what do you have?

Understanding +2

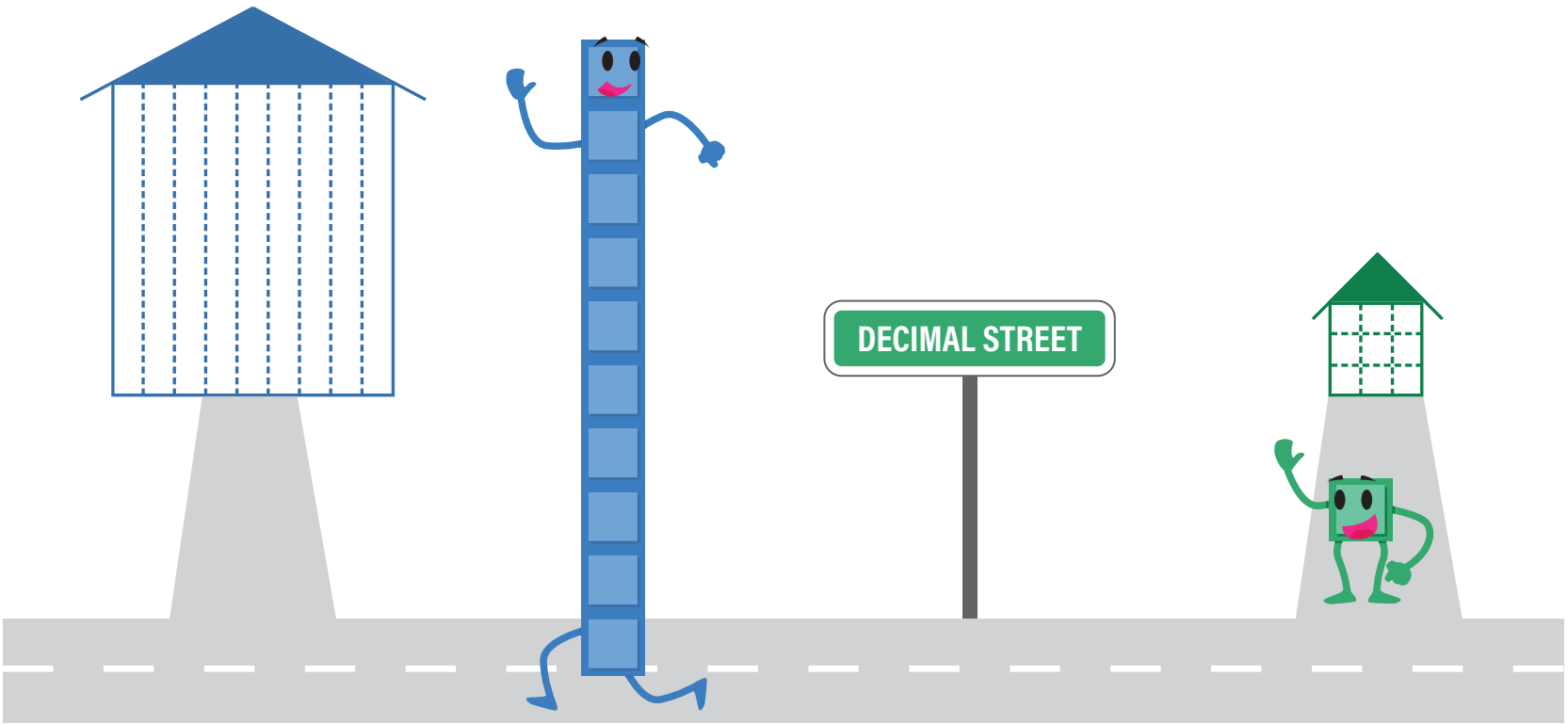
$5 + 2 = 7$ and $2 + 5 = 7$

Which number is 2 **greater than** 5?

Smoosh the blocks together.

Place Value Regrouping

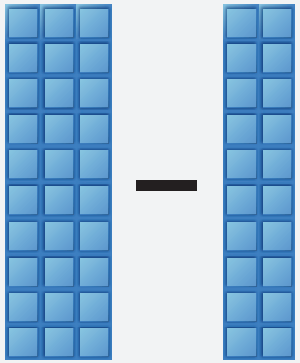
At the end of the problem, every value must be in its own place.

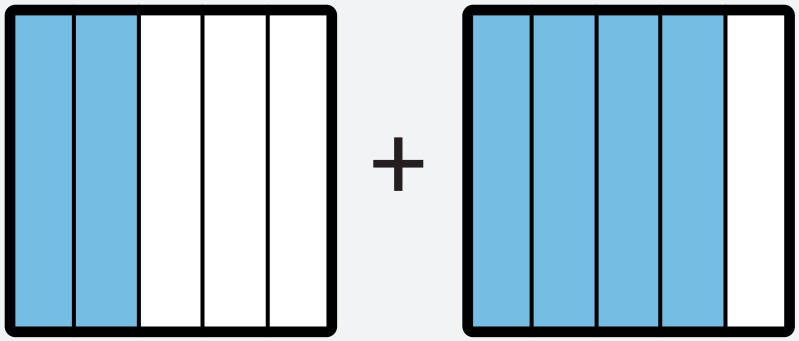


It’s okay to visit, but there’s no place like home!

Place Value Comparing or Combining

H	T	U
1	0	6
+	4	2
1	0	8





To compare or combine,
you must be the same kind.

$$2x^2 - x^2$$

$$\frac{5}{7} < \frac{6}{7}$$