Unit 2

Addition and Subtraction Story Problems

Essential Questions

- What are the relationships between amounts in story problems?
- How can addition and subtraction equations be used to represent and solve story problems?

Unit Story: Let's Grow

You can read the Unit Story with your student by visiting the Unit Story page on the Caregiver Hub.

Unit Investigation

Lesson 1 is the Unit Investigation. Students ask and answer mathematical questions about the Unit Story to build curiosity and apply their own knowledge in a variety of ways. Use the **Caregiver Connection** to help students continue to explore the math they will see in the unit.

Caregiver Connection

Students may enjoy asking and answering mathematical questions when reading books at home. You can ask:

- "Where do you see math in the story?"
- "What do you notice?"
- "What question can you ask about what you noticed?"

Summary | Lesson 2

Some story problems describe an amount that changes. You can represent how the amount gets larger or smaller by using objects, drawings, or equations.

There were 5 guavas on the tree.
Kainoa picked 2 guavas.
How many guavas are still on the tree?

$5 - 2 = \underline{3}$

Try This

Represent the story problem.
Then record your answer to the question.

Show your thinking.

1 Diego had 8 apples.
He gave 4 apples to his grandma.
How many apples does Diego have now?

answer: _____

Summary | Lesson 3

You can use an addition equation to represent an amount getting larger. You can use a subtraction equation to represent an amount getting smaller.

The number of nuts is getting smaller, so I can write a subtraction equation.

There were 7 kukui nuts on the ground. Kainoa picked up 5 kukui nuts. How many kukui nuts are still on the ground?

$7 - 5 = \underline{2}$

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

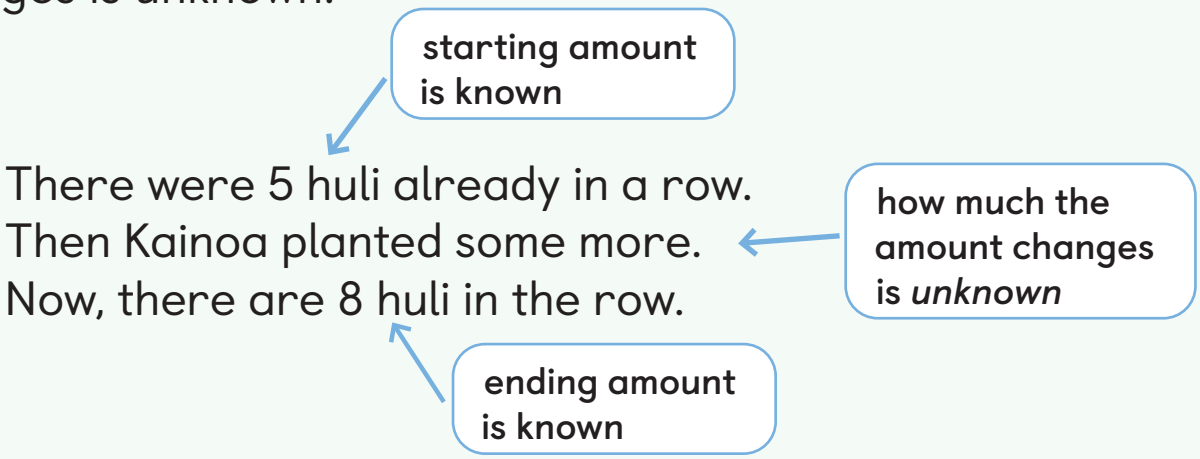
1 There are 4 leaves in a basket.
Shawn picked 5 more leaves.
How many leaves are in the basket now?

answer: _____

equation: _____

Summary | Lesson 4

In some story problems, the starting amount and the ending amount are known, and how much the amount changes is unknown.



Try This

Represent the story problem.
Then record your answer to the question.

Show your thinking.

1 One row had 2 kalo plants.
Diego planted some more in the row.
Now, there are 5 kalo plants.
How many did Diego plant?

answer: _____

Summary | Lesson 5

An equation can represent known and unknown amounts in a story problem. You can use a blank underline to represent the unknown amount.

Grandma dug 6 holes in the garden for new plants.
Grandpa dug some holes, too.
Now there are 8 holes in the garden.
How many holes did Grandpa dig?

$$6 + \_\_\_\_ = 8$$

Try This

1 To help build a garden, Priya got 6 rocks.
Shawn got some more.
They got 10 rocks in all.
How many rocks did Shawn get?

Show your thinking.

answer: _____

Summary | Lesson 6

Thinking about the known and unknown amounts in a story problem can be helpful for making sense of the problem. Then you can choose a strategy for solving.

Grandma had 2 rakes.

Her neighbors brought some more rakes.

Now Grandma has 9 rakes.

How many rakes did her neighbors bring?

How much the amount changed is unknown.

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 Han had 7 strawberries on his plate.
He ate 6 of them.
How many strawberries are still on his plate?

answer: _____

equation: _____

Sub-Unit 1 | Summary

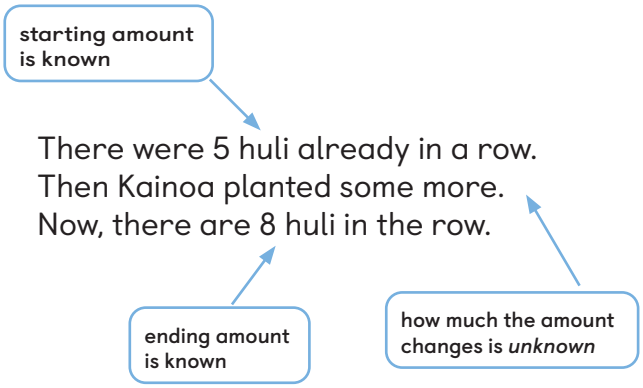
In this sub-unit . . .

- We noticed that some story problems describe an amount that changes. Sometimes the amount gets larger and sometimes the amount gets smaller.

Kainoa had 5 guavas.
Mili gives him 2 more guavas.
How many guavas does
Kainoa have now?

Kainoa had 5 guavas.
He gave 2 guavas to Mili.
How many guavas does
Kainoa have now?

- We noticed that sometimes the unknown amount in a story problem is how much an amount changes.



- We wrote equations to represent story problems.

There were 3 huli in the garden.
Then Kainoa planted some more.
Now there are 7 huli in the garden.
How many huli did Kainoa plant?

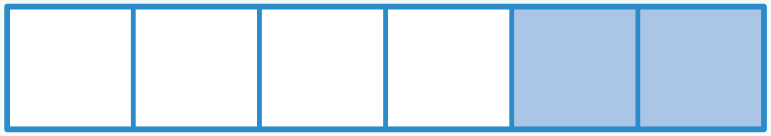
3 + ___ = 7
3 + 4 = 7

Math tip: It can be helpful to represent a story problem with an equation even if you do not know all of the amounts.

Summary | Lesson 7

Some problems describe 2 parts that make a total amount. The total amount is the same no matter which order you add the parts.

There are 2 apples and 4 oranges in a bowl.
How many pieces of fruit are in the bowl in total?



$2 + 4 = \underline{6}$

$4 + 2 = \underline{6}$

Try This

Write 2 equations that could be used to solve the problem.

Use an underline to show the answer in each equation.

Show your thinking.

1 Han saw 3 ladybugs and 2 pill bugs.

How many bugs did he see?

Equation 1: _____

Equation 2: _____

Summary | Lesson 8

You can count to find the total or the unknown addend.

$5 + 2 = \_\_\_$ $5 + \_\_\_ = 7$

5, 6, 7

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 Clare and Diego have 10 seeds.
They only have seeds for squash and carrots.
There are 5 carrot seeds.
How many squash seeds do they have?

answer: _____

equation: _____

Summary | Lesson 9

You can use addition or subtraction to find an unknown part of a total.

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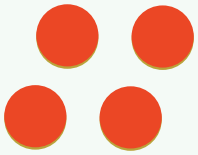


?

$4 + \_\_ = 10$

$10 - 4 = \_\_$

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 There are 10 gloves in the shed.

2 of them are green and the rest are yellow.

How many gloves are yellow?

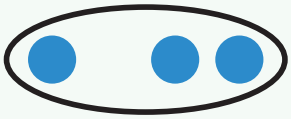
answer: _____

equation: _____

Summary | Lesson 10

You can help other mathematicians understand your thinking by labeling your work and underlining the answer in your equation.

After making muffins, Max had 1 cup of squash and 2 cups of carrots left.
How many cups of vegetables did Max have left?



squash carrots

answer: 3 cups of vegetables **equation:** 1 + 2 = 3

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 Diego needs some grapes to make a fruit salad.

He uses 2 cups of green grapes and 3 cups of red grapes.

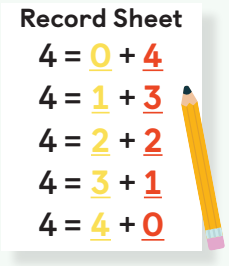
How many cups of grapes does he use?

answer: _____ **equation:** _____

Summary | Lesson 11

You can write equations and use patterns in the addends to help you find all the possible ways that 2 parts can make a total.

Lola and Kainoa played Shake and Spill with a total of 4 counters.
They recorded addition equations to represent and find all the possible spills.



Try This

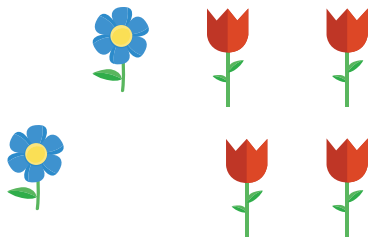
1 Solve the problem. Write equations to represent your answers. Find as many possible answers as you can.

Shawn has a bag of 6 apple slices.
Some are green and some are red.
How many of each color could be in the bag?

Show your thinking.

In this sub-unit . . .

- We noticed that in some story problems there are 2 parts that make a total amount.



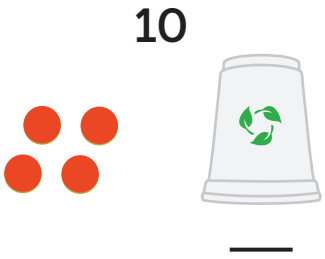
$2 + 4 = \underline{6}$

$4 + 2 = \underline{6}$

There are 2 blue flowers and 4 red flowers.
How many flowers are there?

Math tip: The total amount is the same no matter which order you add the parts.

- We noticed that addition or subtraction can be used to find an unknown part.



$4 + \_\_ = 10$

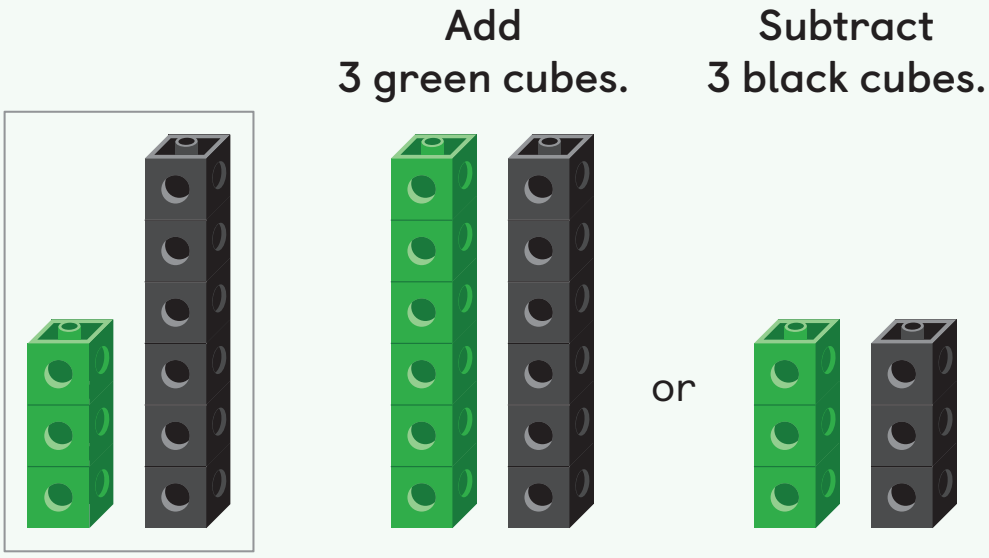
$10 - 4 = \_\_$

- We used patterns to find equations that represent the 2 unknown parts of a total amount.

$0 + 5 = 5$
$1 + 4 = 5$
$2 + 3 = 5$

Summary | Lesson 12

One way to compare 2 amounts is to find how many could be added to 1 group or subtracted from the other group to make the amounts equal.



Try This

1 Diego built a tower with 3 blue cubes and a tower with 10 yellow cubes.

He does not have any more blue cubes.

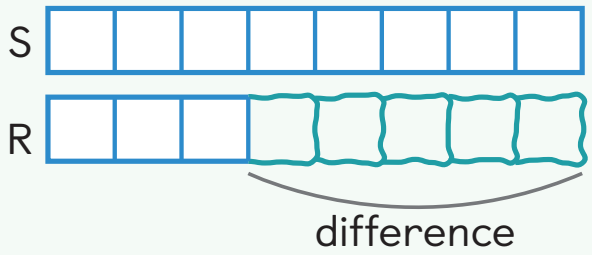
How could Diego make the towers equal?

Show your thinking.

Summary | Lesson 13

When comparing 2 amounts, the answers to the questions 'how many more?' and 'how many fewer?' are the same because both questions are asking for the difference between the 2 amounts.

There are 8 shovels.
There are 3 rakes.



There are **5 more shovels** than rakes.
There are **5 fewer rakes** than shovels.

Try This

Solve the problem.

Show your thinking.

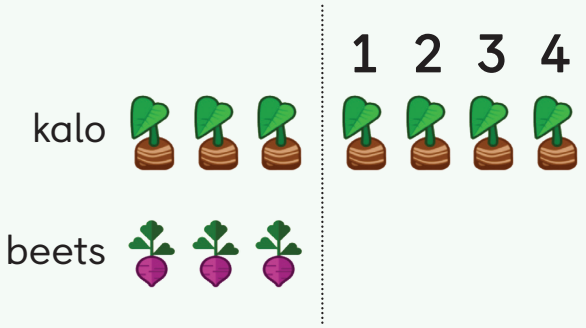
1 There are 8 students and 5 buckets.

How many fewer buckets are there than students?

answer: _____

Summary | Lesson 14

Using a representation can be helpful when solving story problems that compare 2 amounts.



There are 4 fewer beets than kalo.

Try This

Priya baked some fruit muffins.

Use the data table to complete the problem.
Write an equation to show how you solved the problem.
Use an underline to show the answer in the equation.

Banana	Blueberry	Cranberry
5	10	7

Show your thinking.

1 How many fewer banana muffins did Priya bake than cranberry muffins?

answer: _____

equation: _____

Summary | Lesson 15

Addition and subtraction equations can be used to find the difference between 2 amounts.

beet	pumpkin
2	6

$2 + \underline{4} = 6$

Difference

$6 - 2 = \underline{4}$

Try This

Shawn thinks the equation could be used to find the difference between 8 scissors and 10 students. Do you agree or disagree?

Show or explain your thinking.

1 $8 + \underline{2} = 10$

Summary | Lesson 16

You can make sense of data by finding the sum of 2 categories or comparing 2 categories to find the difference.

Plants in the Garden

Plant	Number
fruits	3
vegetables	4
herbs	6

1. How many fruits and herbs are there in all?

   $3 + 6 = \underline{9}$

2. How many fewer vegetables are there than herbs?

   $4 + \underline{2} = 6$ or $6 - 4 = \underline{2}$

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 There are 3 pumpkins and 8 carrots that are ready for harvest.
How many more carrots are ready for harvest than pumpkins?

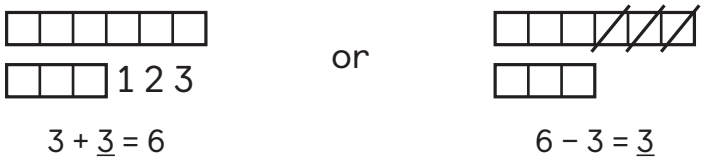
answer: _____ **equation:** _____

In this sub-unit . . .

- We solved story problems by answering questions about *how many more* and *how many fewer*.

  There are 6 rakes.
  There are 3 students.
  How many *more* rakes are there than students?

- We noticed that we can add or subtract to find how many more and how many fewer.



$3 + \underline{3} = 6$ $\quad$ $6 - 3 = \underline{3}$

Math tip: To compare amounts, find how many you can add or subtract to make the amounts equal.

- We looked at data representations and compared amounts.

Job	Number of votes
weeding	3
watering	2
harvesting	5

How many fewer votes did watering get than harvesting?

Summary | Lesson 17

When making sense of a story problem, ask yourself:
Does an amount change? Are 2 amounts being compared?
Are there parts that make a total amount?

1 amount changes.

There were 5 beets in a bowl.
Kainoa put some more beets in.
Now there are 10 beets in the bowl.
How many beets did Kainoa put in the bowl?

2 amounts are compared.

There are 6 small pumpkins and 1 large pumpkin.
How many more small pumpkins are there than large pumpkins?

Parts make a total.

4 carrots and some beets are in a basket. There are 6 vegetables in the basket.
How many are beets?

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 There are 7 aprons in the shed.
3 are dirty and the rest are clean.
How many aprons are clean?

answer: _____ **equation:** _____

Summary | Lesson 18

When writing equations to represent story problems, it is important to make sure the equation shows a way to find the unknown amount.

There are 4 daisies and 3 roses in the garden.
How many *fewer* roses are there than daisies?

$4 + 3 = \_\_$

$4 - 3 = \_\_$

Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 There are 7 flowers in the garden.
There are 2 bees in the garden.
How many fewer bees are there than flowers?

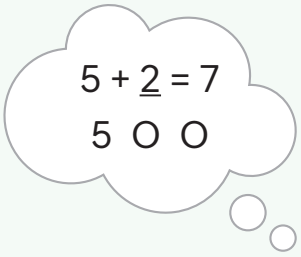
answer: _____

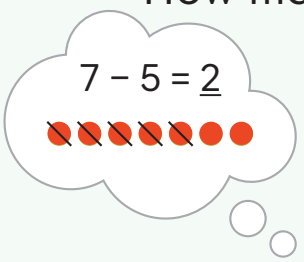
equation: _____

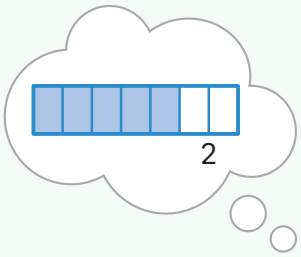
Summary | Lesson 19

Mathematicians make choices about how to represent and solve story problems. Sometimes there is more than 1 equation that represents the relationship between the amounts in a story problem.

There were 5 squirrels in the garden.
Some more squirrels joined.
Now there are 7 squirrels in the garden.
How many squirrels joined?







Try This

Solve the problem and write an equation to show how you solved it.
Use an underline to show the answer in the equation.

Show your thinking.

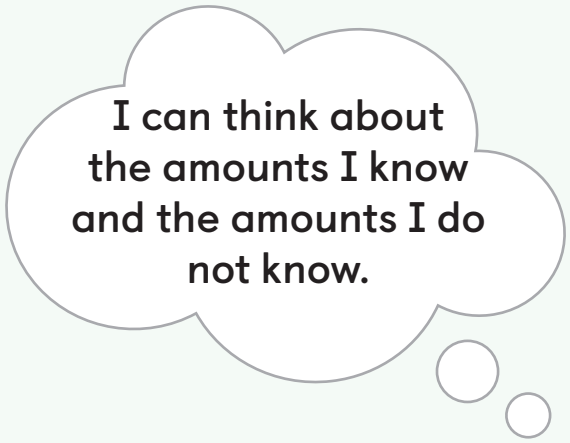
1 There were 3 cilantro plants in the garden.
Jada planted 5 more.
How many cilantro plants are in the garden?

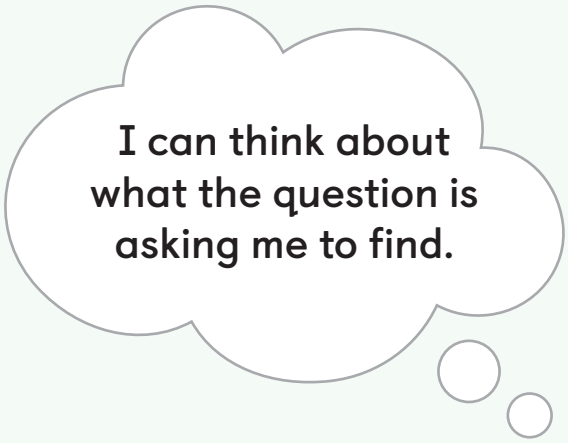
answer: _____

equation: _____

Summary | Lesson 20

There are many ways to make sense of and solve story problems.





Try This

Solve the problem and write an equation to show how you solved it.

Use an underline to show the answer in the equation.

Show your thinking.

1 There are 5 shovels in the shed.
There are 2 rakes in the shed.
How many fewer rakes are there than shovels?

answer: _____

equation: _____

Sub-Unit 4 | Summary

In this sub-unit . . .

- We asked ourselves questions to make sense of the relationship between the amounts in story problems.
  - **Does an amount change?**
  - **Are 2 amounts being compared?**
  - **Are there parts that make a total amount?**

- We noticed story problems can be alike but ask different questions.

  There are 4 squirrels and 3 snails in the garden.
  How many fewer snails are there than squirrels?

  There are 4 squirrels and 3 snails in the garden.
  How many animals are in the garden in total?

- We thought about if we wanted to use addition or subtraction to find unknown amounts.

  There are 4 squirrels and 3 snails in the garden.
  How many fewer snails are there than squirrels?

  Subtraction equation
  $4 - 3 = \_\_$

  Addition equation
  $3 + \_\_ = 4$

  Math tip: The difference between 2 amounts can be represented as an unknown addend.

Try This | Answer Key

Lesson 2

1 Sample work:

answer: 4 apples

Lesson 3

1 Sample work:

answer: 9 leaves
equation: Sample response: 4 + 5 = 9

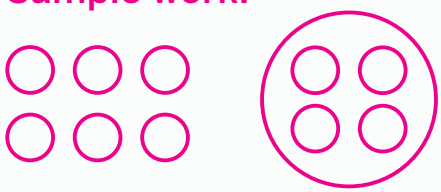
Lesson 4

1 Sample work:

answer: 3 plants

Lesson 5

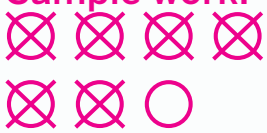
1 Sample work:



answer: 4 rocks

Lesson 6

1 Sample work:



answer: 1 strawberry
equation: Sample response: 7 − 6 = 1

Try This | Answer Key

Lesson 7

1 Sample work and equations:

5 bugs

Equation 1: 3 + 2 = 5
Equation 2: 2 + 3 = 5

Lesson 8

1 Sample work:

answer: 5 squash seeds
equation: Sample response: 5 + 5 = 10

Lesson 9

1 Sample work:

answer: 8 gloves
equation: Sample response: 10 − 2 = 8

Lesson 10

1 Sample work:

answer: 5 cups
equation: 2 + 3 = 5

Lesson 11

1 Sample response:

green red

1 + 5 = 6
2 + 4 = 6
3 + 3 = 6
4 + 2 = 6
5 + 1 = 6

Lesson 12

1 Sample work:

He could take away 7 yellow cubes so both towers have 3 cubes.

Lesson 13

1 Sample work:

answer: 3 fewer buckets

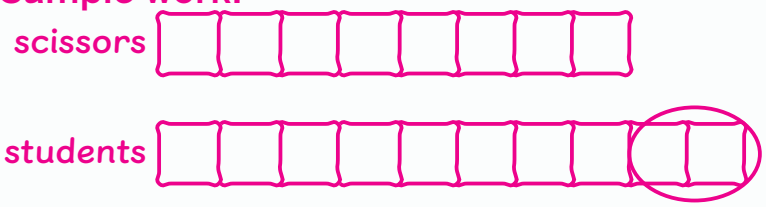
Lesson 14

1 Sample work:

answer: 2 fewer banana muffins
equation: 7 − 5 = 2

Lesson 15

1 Sample work:



I agree because you would need to add 2 more scissors and then the amounts would be equal.

Lesson 16

1 Sample work:

answer: 5 more carrots
equation: Sample response: 8 − 3 = 5

Lesson 17

1 Sample work:

answer: 4 aprons
equation: Sample response: 3 + 4 = 7

Lesson 18

1 Sample work:

answer: 5 fewer bees
equation: 7 − 2 = 5

Try This | Answer Key

Lesson 19

1 Sample work:

answer: 8 cilantro plants
equation: Sample response: 3 + 5 = 8

Lesson 20

1 Sample work:

answer: 3 fewer rakes
equation: Sample response: 5 − 2 = 3