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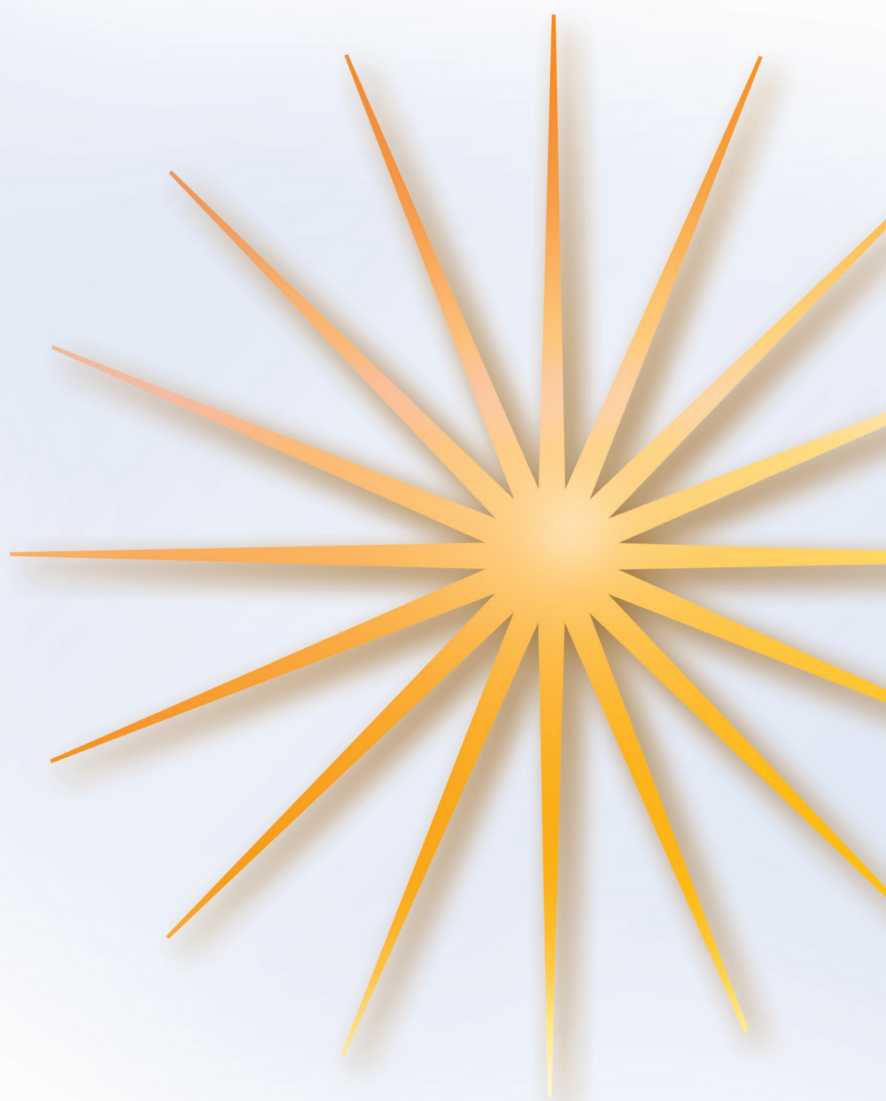
Critical Thinking for Math

K








Strategies and Activities to Extend Mathematical Understanding

- Counting and writing numbers
- Adding and subtracting through 10
- Place value foundations
- 2-D and 3-D shapes
- Answer key

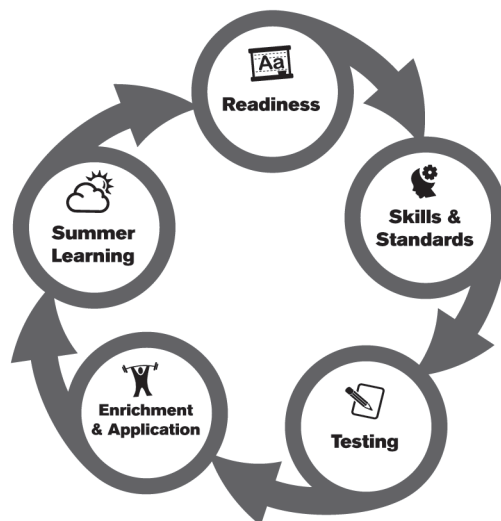


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SPECTRUM

Critical Thinking for Math

Kindergarten

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Answer Key

**Check What You Know****Counting and Writing Numbers**

Draw the number of objects given. Then, write the number.

1. **6** 

2. **12** 

3. **22** 

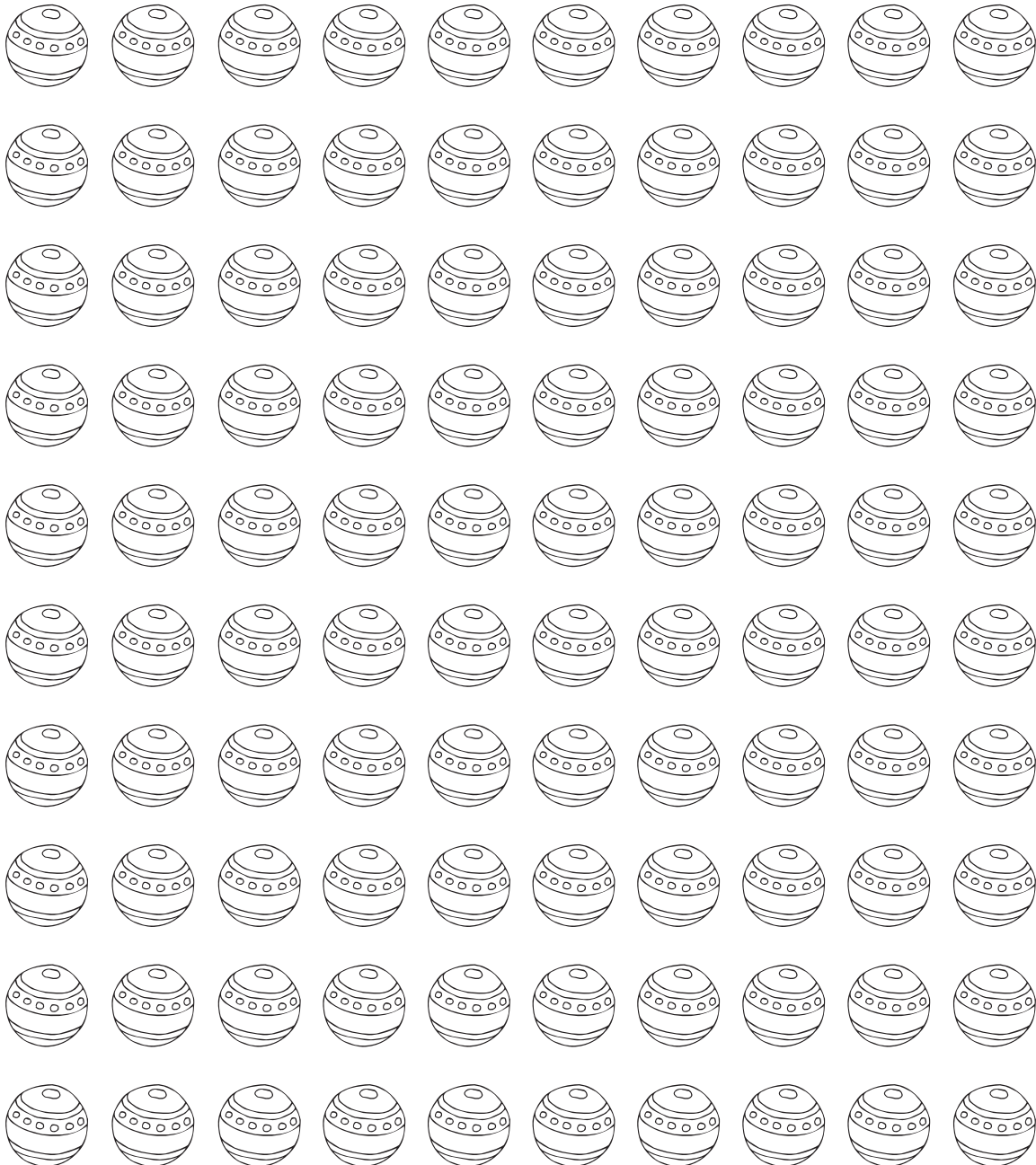
4. **15** 



Check What You Know

Counting and Writing Numbers

Color **52** balls purple. Color **48** balls orange.

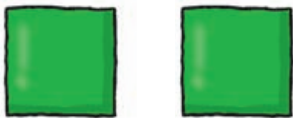


Lesson 1.1 Counting and Writing Numbers to 10

Count the shapes in each group. Draw more shapes so that each group has the given number of shapes. Write the given number on the line.

9

5

3

8

Lesson 1.1 Counting and Writing Numbers to 10

The dog has 7 black spots on its body.

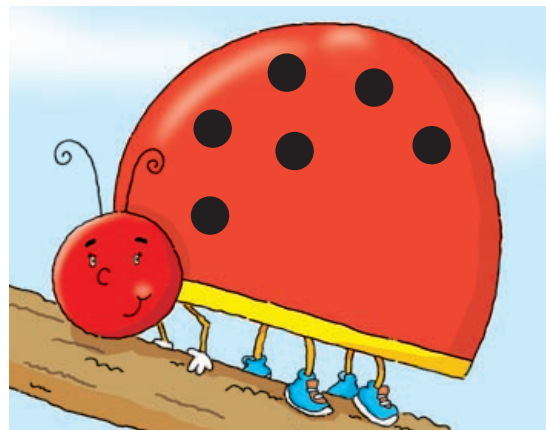
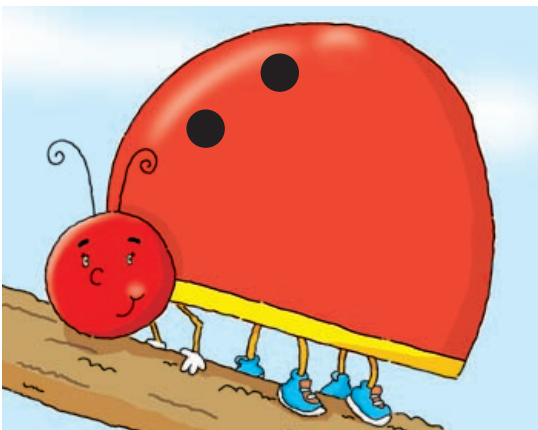
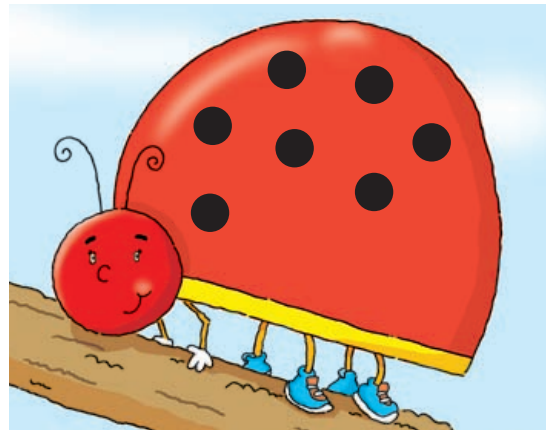
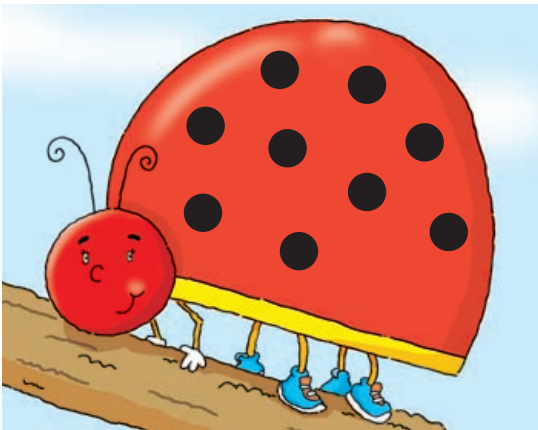
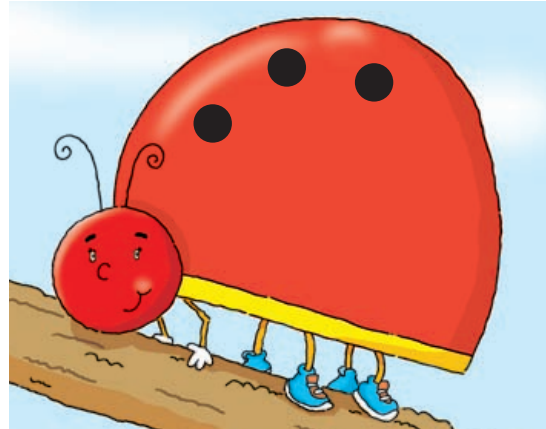
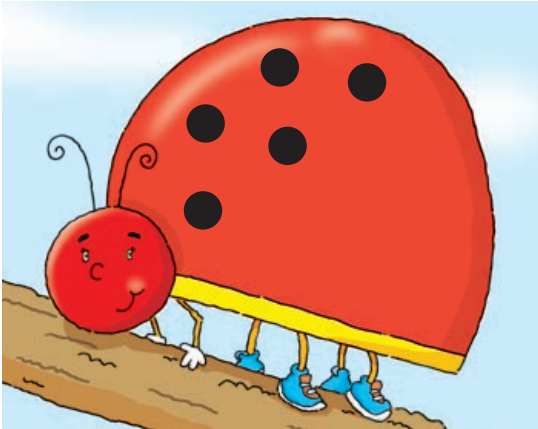
7

Draw the number of spots given on the body of each dog.

10**4****9****6**

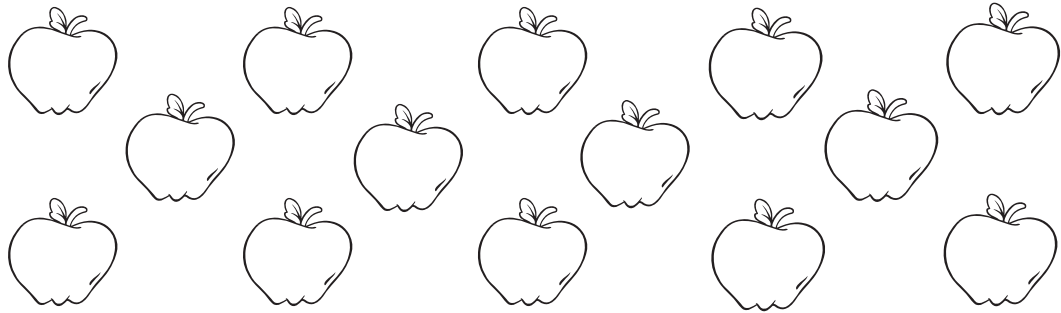
Lesson 1.1 Counting and Writing Numbers to 10

Count the number of spots on each ladybug. Draw more spots to make 10.

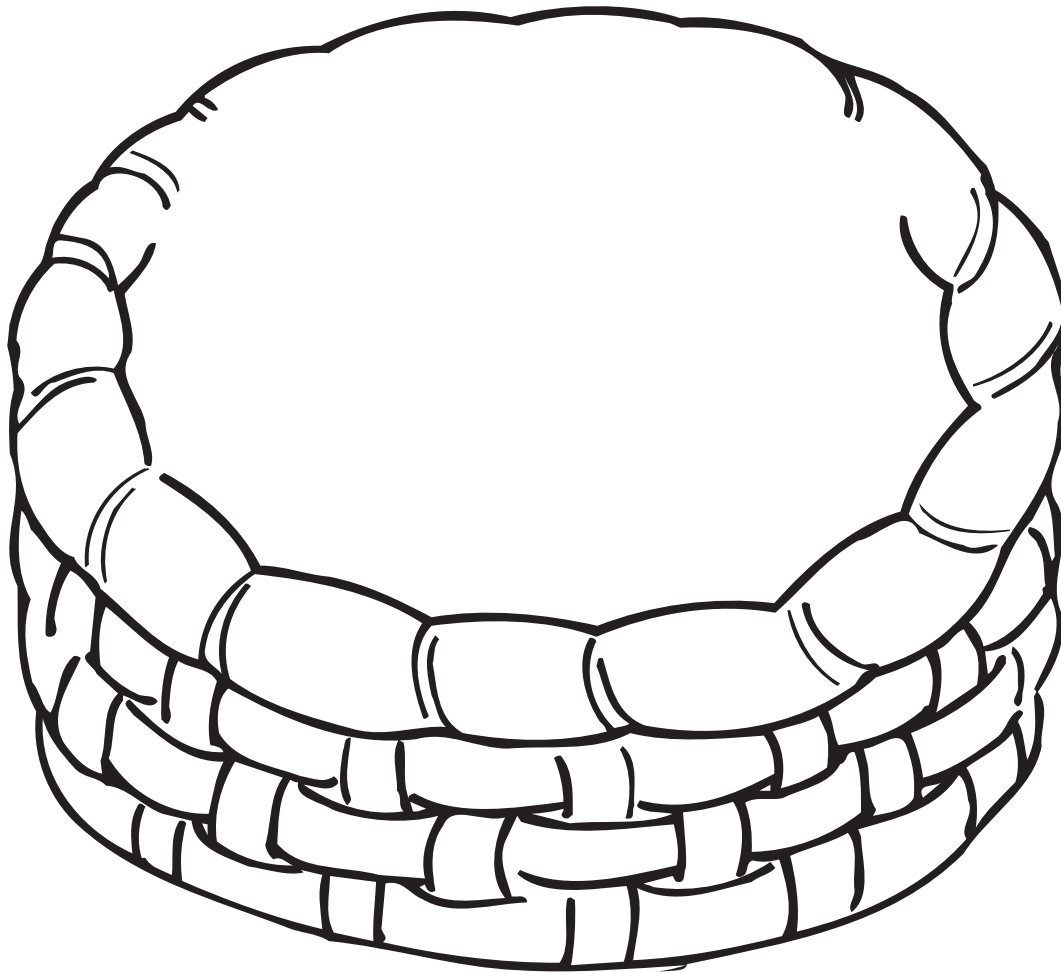


Lesson 1.1 Counting and Writing Numbers to 10

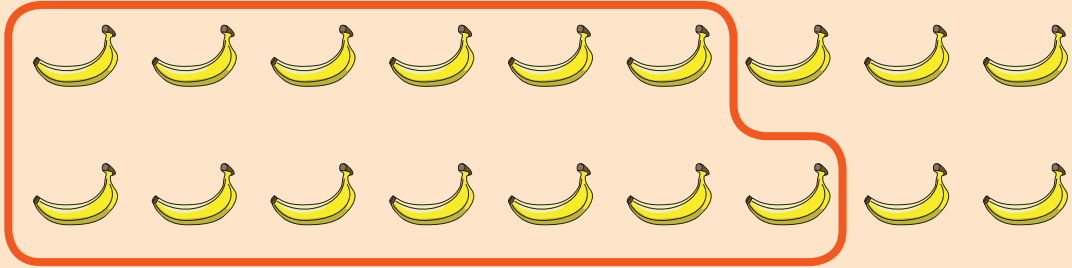
Color **6** apples red. Color **5** apples yellow. Color **3** apples green.



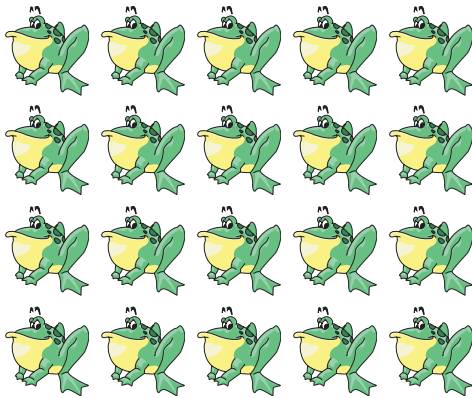
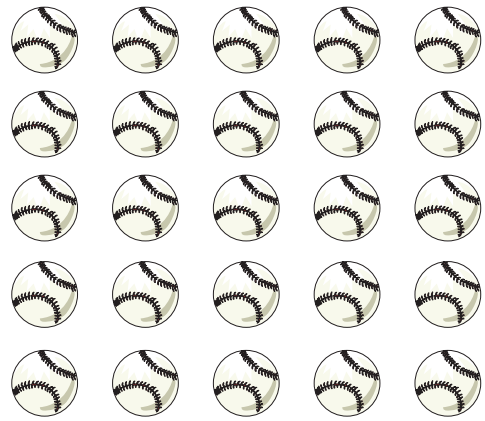
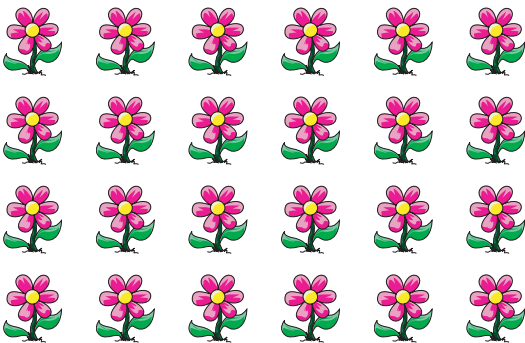
Draw 6 blue eggs and 7 brown eggs in the basket. How many eggs are there in total?



eggs

Lesson 1.2 Counting and Writing Numbers to 25**13**

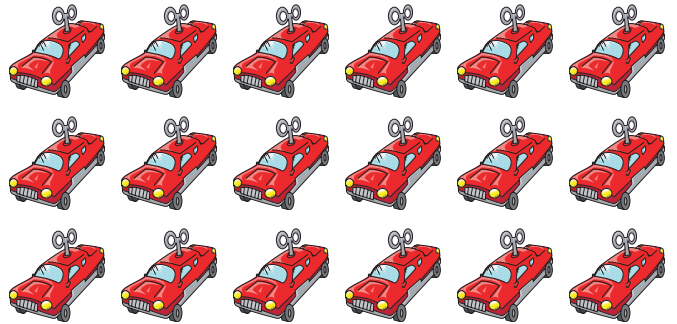
Circle the objects to make the given number.

17**23****19****21**

Lesson 1.2 Counting and Writing Numbers to 25

Draw a line to match each number to a group of things.

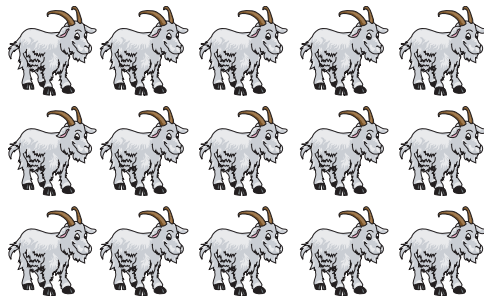
11



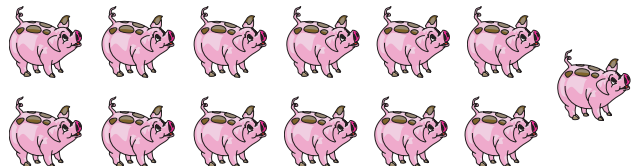
18



13



15



Lesson 1.2 Counting and Writing Numbers to 25

Draw pictures to show the given number of each object shown.

14 

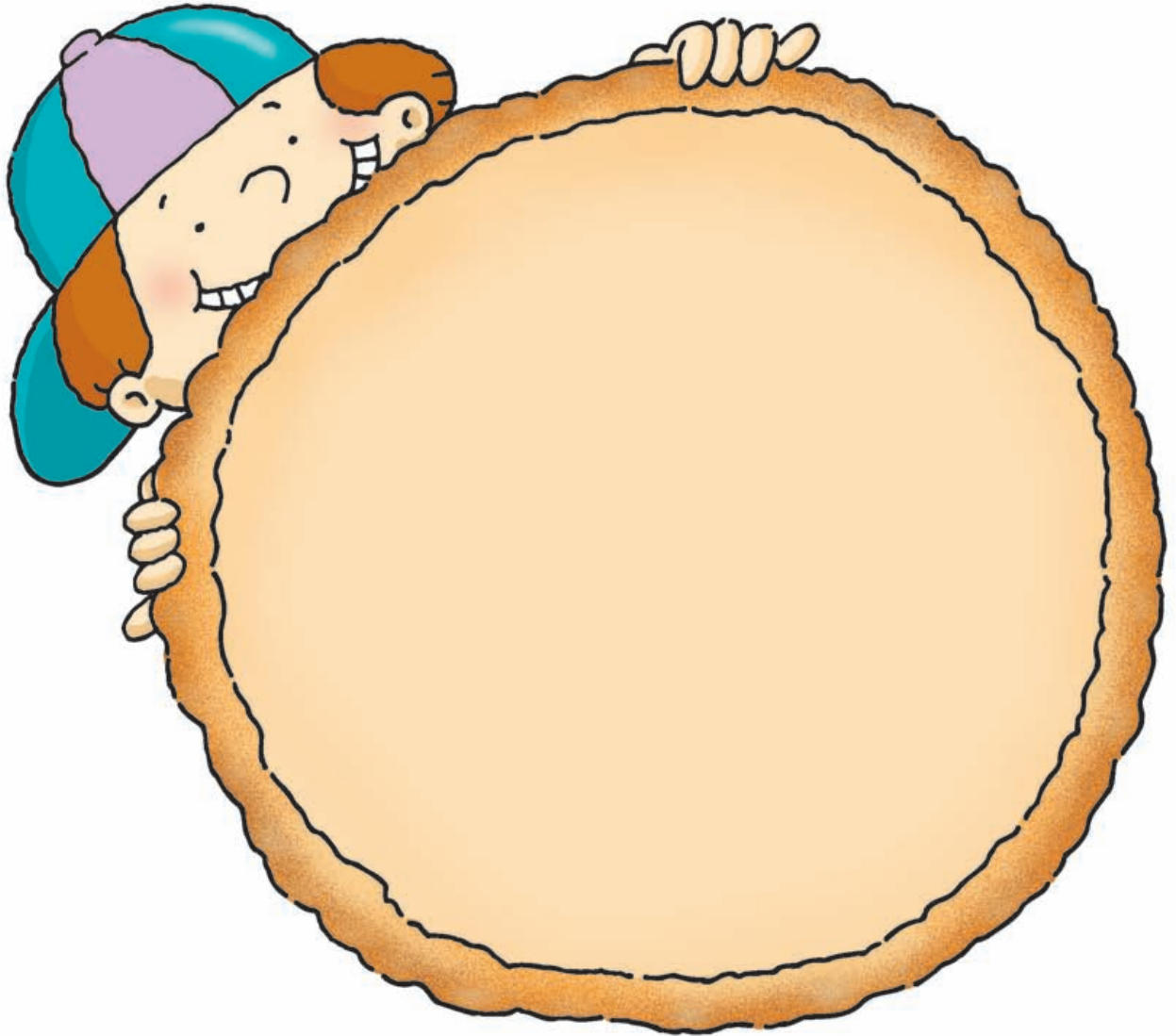
24 

16 

Lesson 1.2 Counting and Writing Numbers to 25

Draw **15** pieces of pepperoni on the pizza. Draw **20** black olives on the pizza.

Write the numbers on the line below.

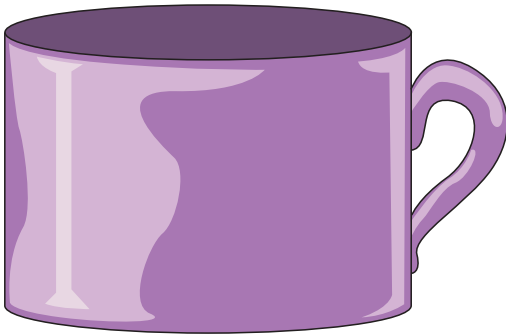


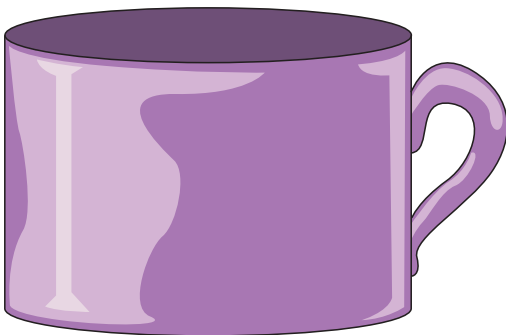
pieces of pepperoni

black olives

Lesson 1.2 Counting and Writing Numbers to 25

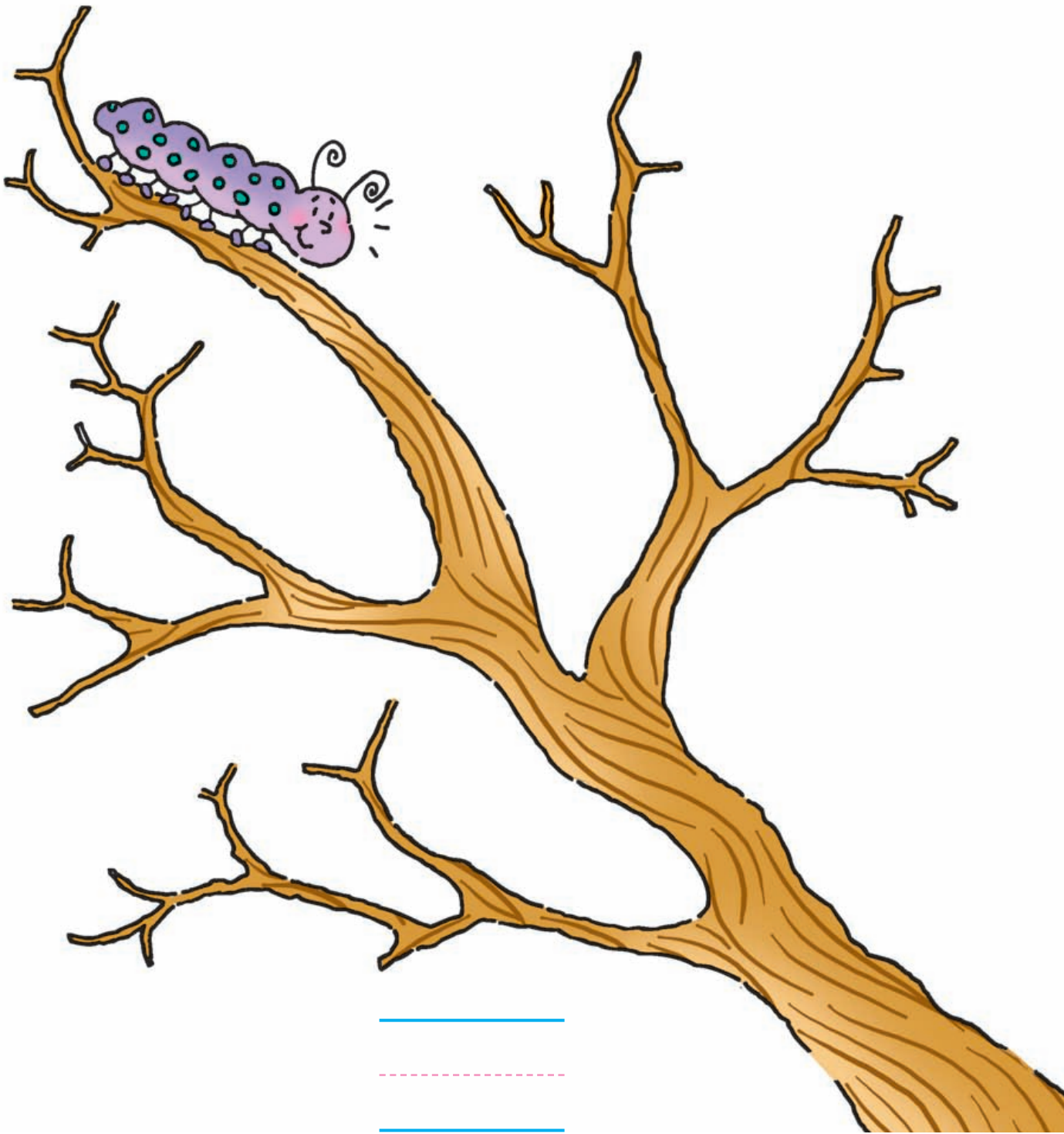
Draw the given number of pencils in each cup. Write the number on each line.

13

19

Lesson 1.2 Counting and Writing Numbers to 25

Draw **17** leaves on the branches for the caterpillar to eat. Write the number on the line.

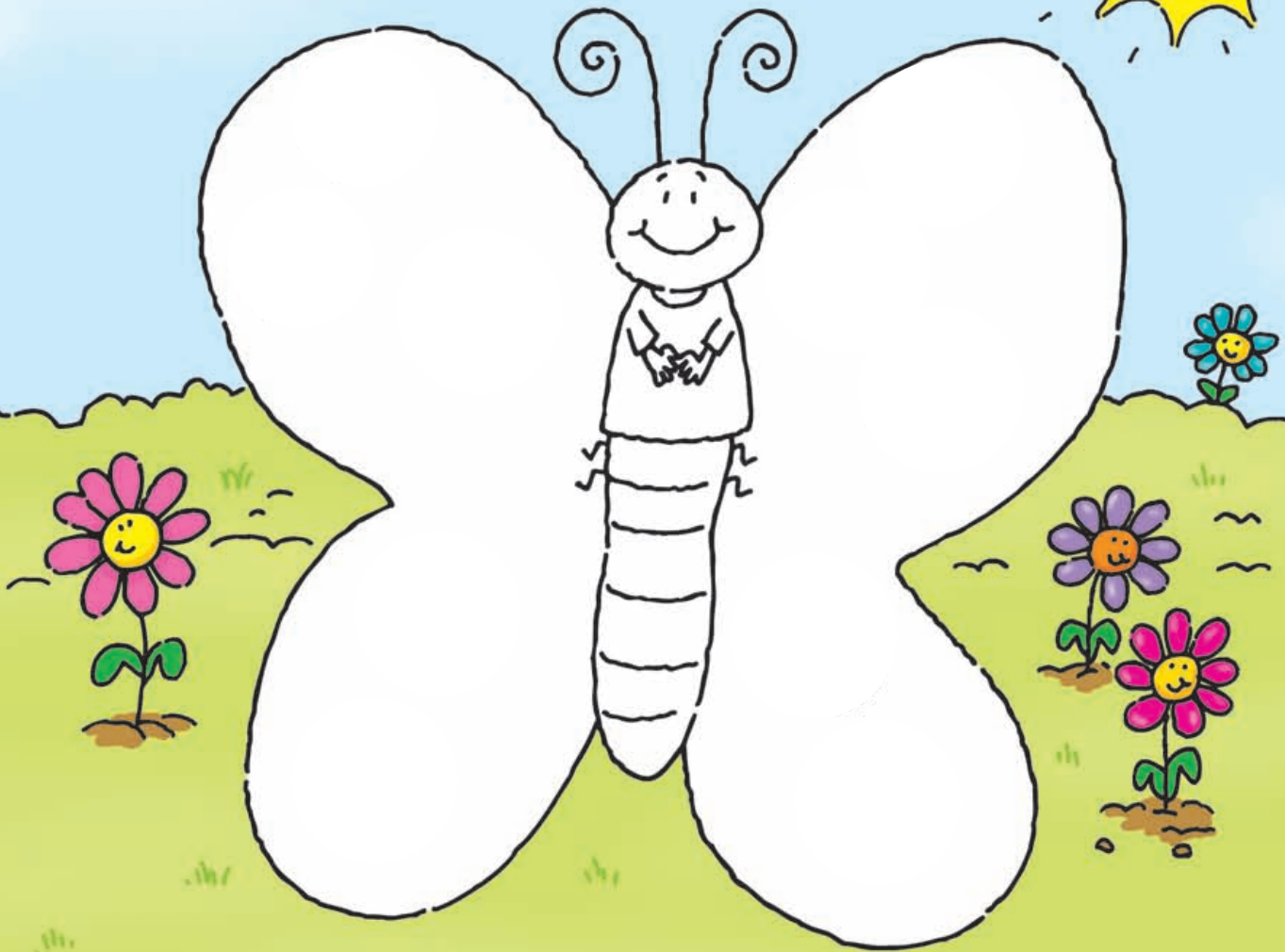


Lesson 1.2 Counting and Writing Numbers to 25

Draw **8** red dots, **11** green dots, and **4** purple dots.

Write the number on each line below.
How many dots did you draw in all?

dots



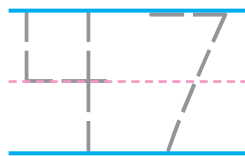
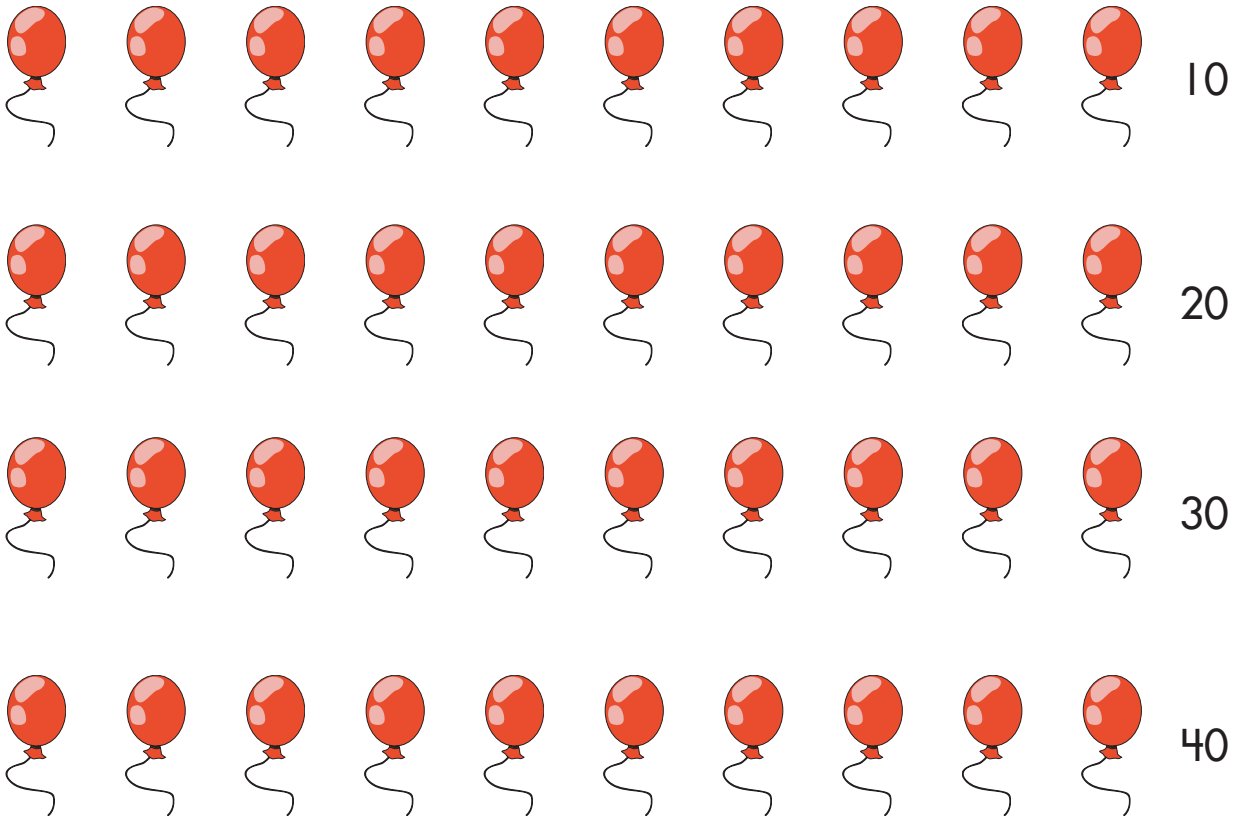
red

green

purple

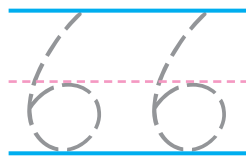
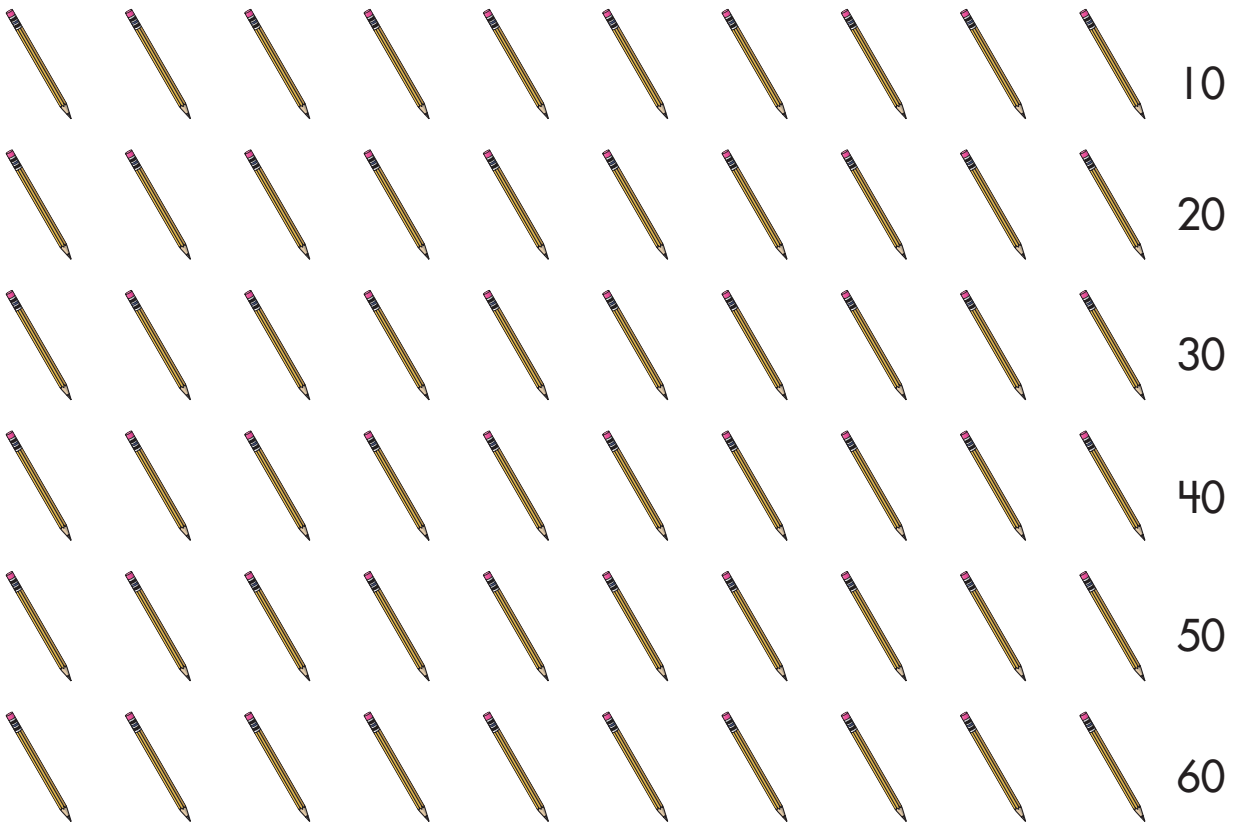
Lesson 1.3 Counting and Writing Numbers to 100

There are 10 balloons in each row. Count them by ones and by tens. Then, draw the amount of balloons needed to make the given number. Trace the given number on the line.

47

Lesson 1.3 Counting and Writing Numbers to 100



















































There are 10 pencils in each row. Count them by ones and by tens. Then, draw the amount of pencils needed to make the given number. Trace the given number on the line.

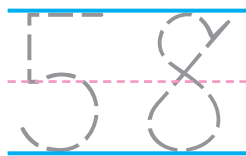
66

Lesson 1.3 Counting and Writing Numbers to 100

There are 10 baseballs in each row. Count them by ones and by tens. Then, draw the amount of baseballs needed to make the given number. Trace the given number on the line.

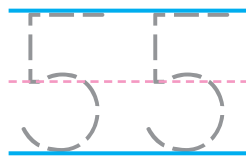
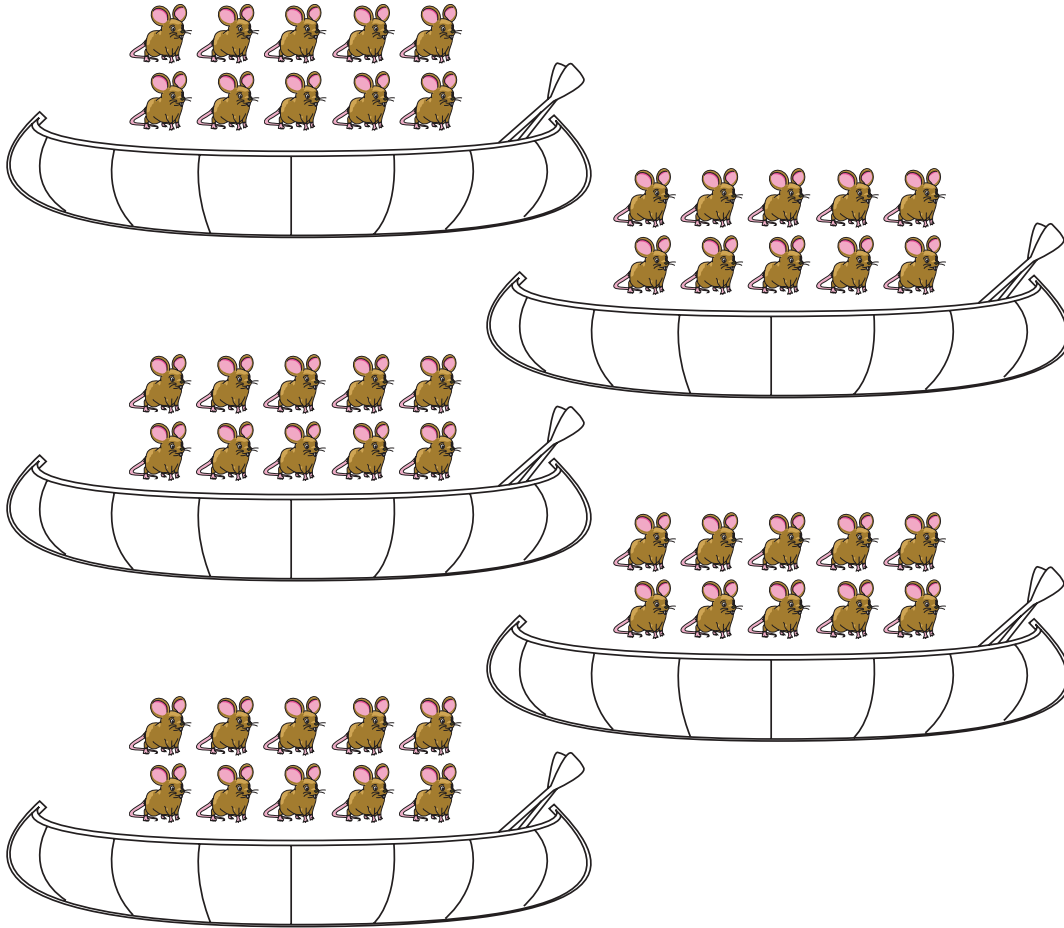
58

										10
										20
										30
										40
										50



Lesson 1.3 Counting and Writing Numbers to 100

Count the mice. Draw another canoe. Then, draw more mice in the canoe to make 55 in all. Trace the number on the line.



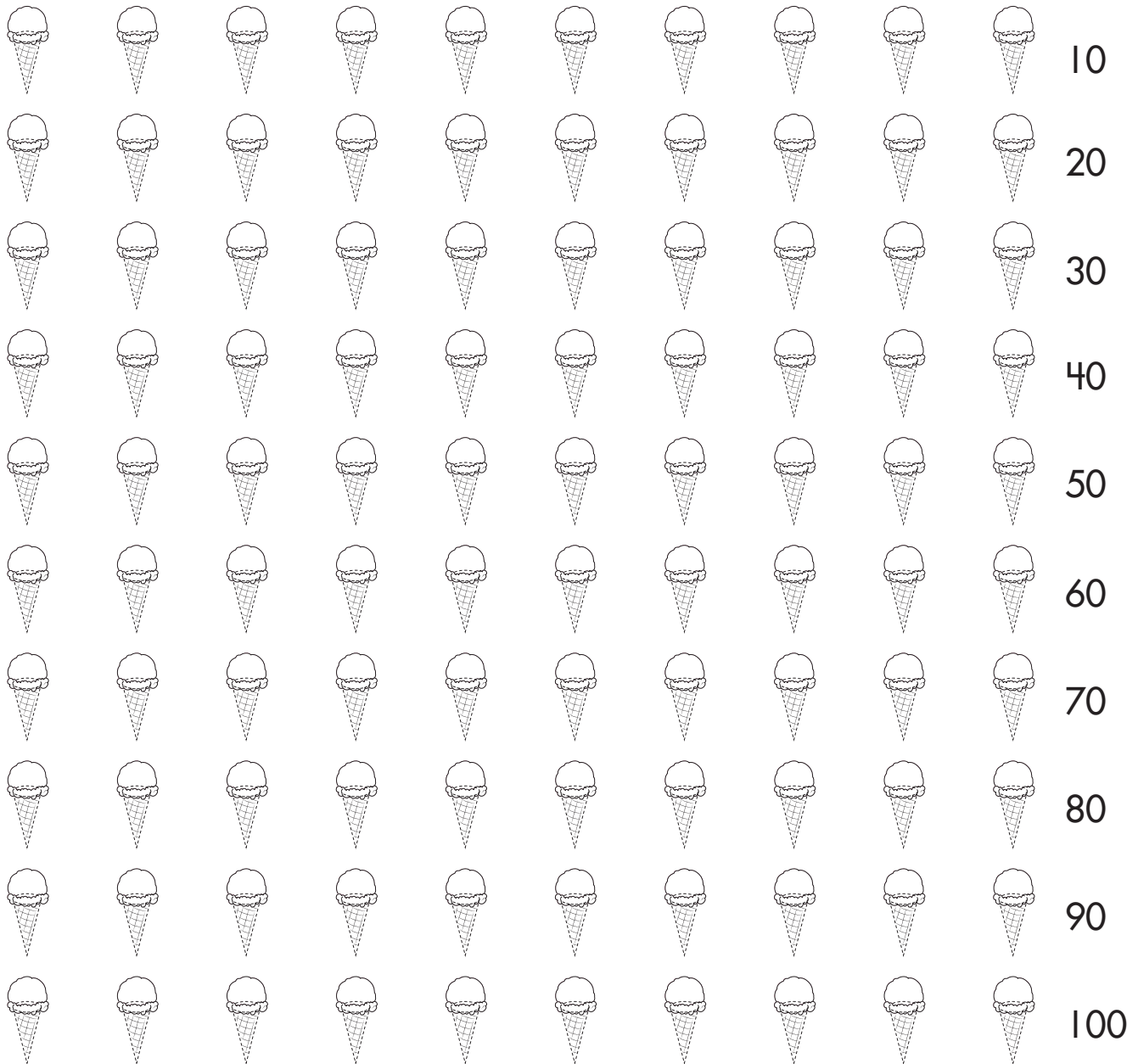
Lesson 1.3 Counting and Writing Numbers to 100

Count 100 ladybugs by ones and by tens. Then, color **61** ladybugs red.
Color **39** ladybugs orange.



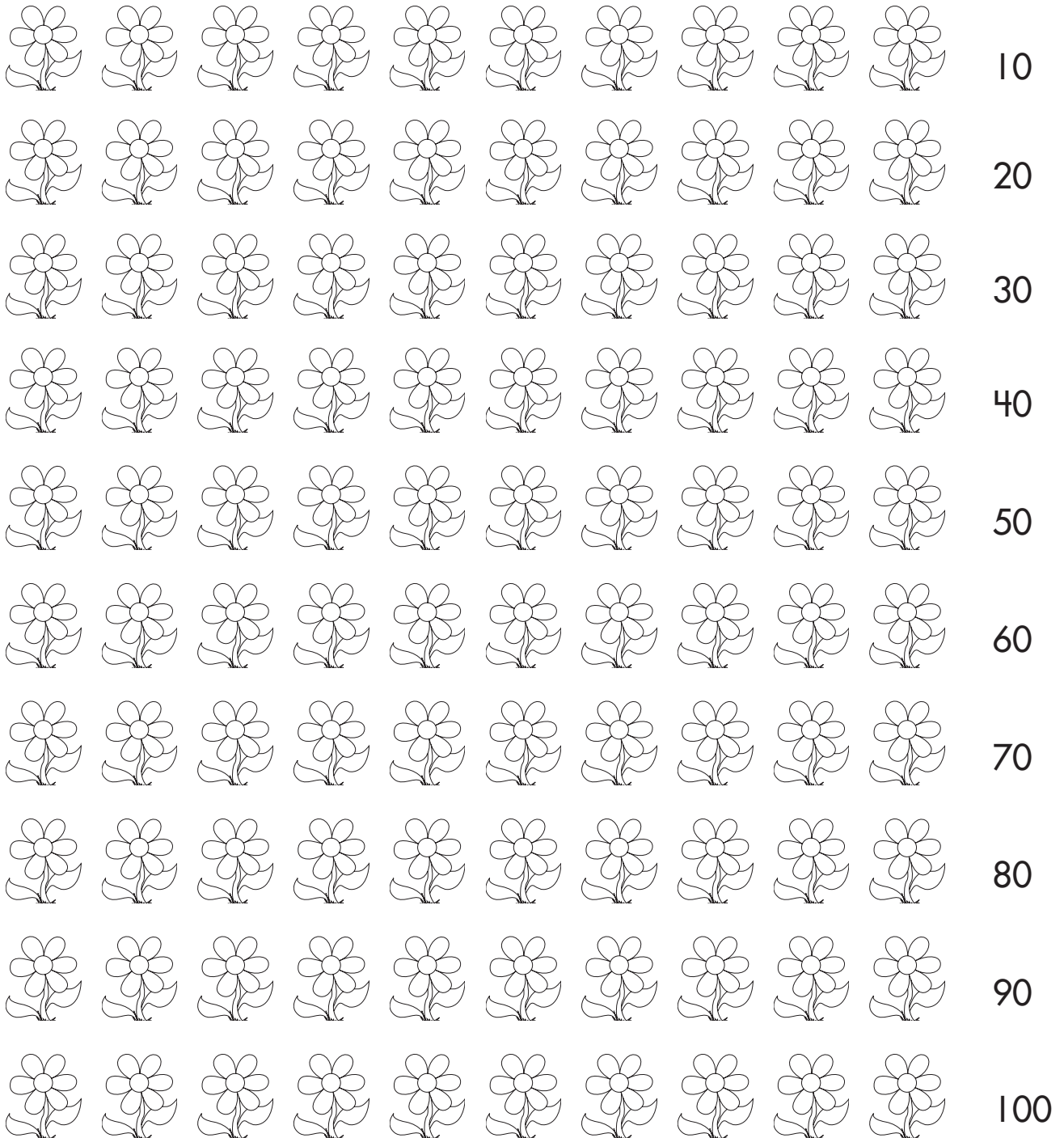
Lesson 1.3 Counting and Writing Numbers to 100

Count 100 ice cream cones by ones and by tens. Then, color **42** cones red. Color **23** cones brown. Color **35** cones yellow.



Lesson 1.3 Counting and Writing Numbers to 100

Count 100 flowers by ones and by tens. Then, color **26** flowers red. Color **42** flowers orange. Color **32** flowers yellow.



Lesson 1.3 Counting and Writing Numbers to 100

You can begin with any number and count on.

22 23 24 25 26 27 28

Write the missing number in each row.

8 9 10 _____ **12 13 14**

36 37 38 39 _____ **41 42**

59 60 _____ **62 63 64 65**

_____ **79 80 81 82 83 84**

94 95 96 97 98 99 _____

Lesson 1.3 Counting and Writing Numbers to 100

Stack the blocks high!
Begin with the number at
the bottom. Write one
number on each block to
count up.

8	19	68	94

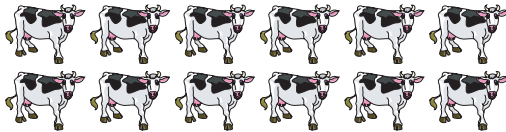


Check What You Learned

Counting and Writing Numbers

1. Circle the number of objects given. Write the number on the line.

7



2. Write the missing number in the row. Draw the same number of circles below.

17

18

20

21

22

23

3. Count the caps by ones and by tens. Then, draw the number of caps needed to make the given number. Trace the given number.

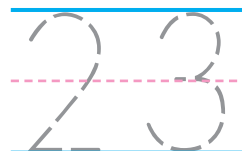
23



10



20
















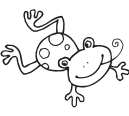









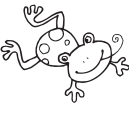









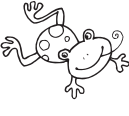




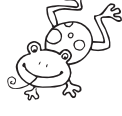




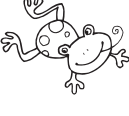



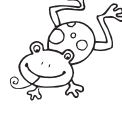





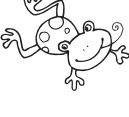





























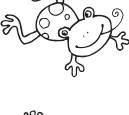


















Check What You Learned

Counting and Writing Numbers

4. Count 100 frogs by ones and by tens. Then, color **66** frogs green. Color **24** frogs blue. Color **10** frogs red.

										10
										20
										30
										40
										50
										60
										70
										80
										90
										100



Check What You Know

Working with Numbers

1. Circle the greater number. Draw pictures to show your thinking.

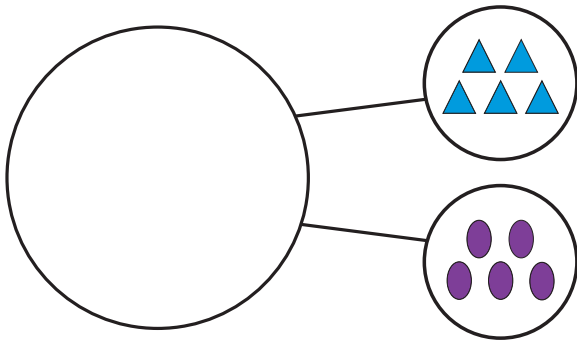
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7

2. Count the marbles on the left. On the right, draw a group of marbles. The number of marbles on the right should be **less than** the number on the left.

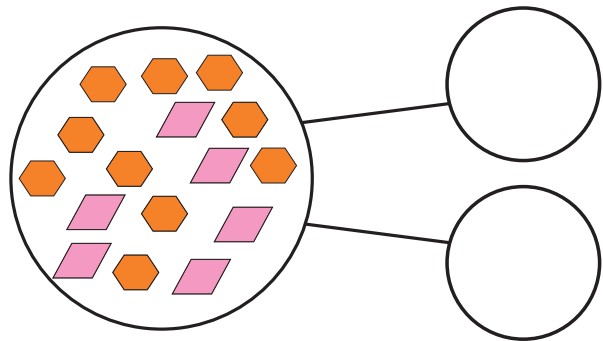


3. Draw pictures to compose the number.



5 and 5 is 10.

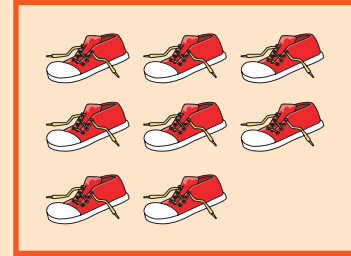
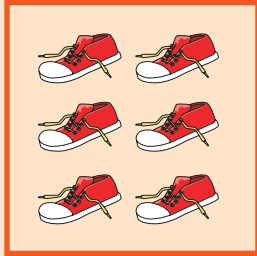
4. Draw pictures to decompose the number. Then, write the number sentence shown.



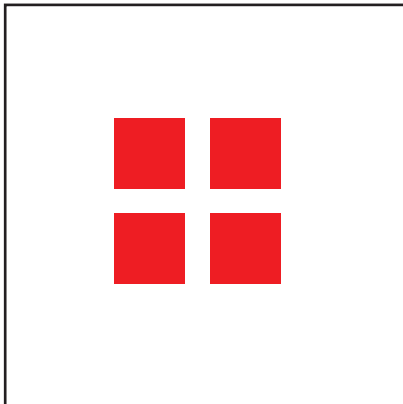
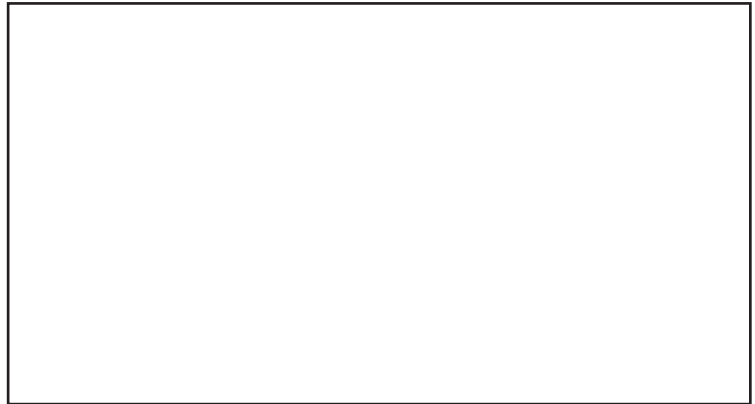
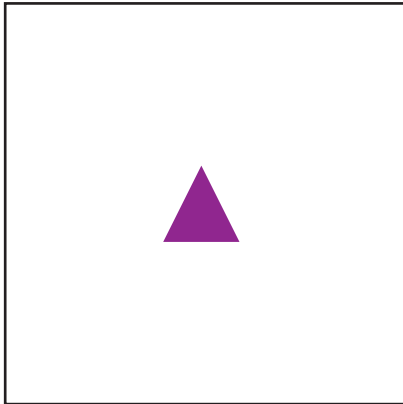
16 is _____ and _____ .

Lesson 2.1 Comparing Numbers

Count the objects on the left. Then, count the objects on the right. The group of objects on the right has **more than** the group of objects on the left.

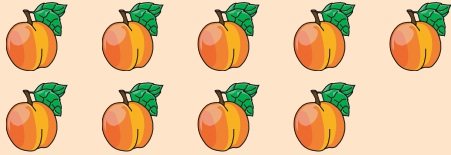


Count the objects on the left. On the right, draw a group of objects that has **more than** the group of objects on the left.



Lesson 2.1 Comparing Numbers

To determine the number that is **greater**, draw the amount of objects given under each number.

9

is more than


2


Circle the **greater** number. Draw pictures to show your thinking.

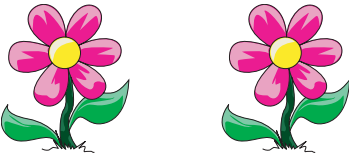
3**5****7****1**

Lesson 2.1 Comparing Numbers

Count the objects in the box on the left. In the box on the right, write a number that is **more than** the number of objects on the left. Draw a picture to help you.

	<div style="text-align: right;"><div style="border-bottom: 1px solid blue; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px dashed pink; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px solid blue; height: 10px; width: 100px;"></div></div>
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	<div style="text-align: right;"><div style="border-bottom: 1px solid blue; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px dashed pink; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px solid blue; height: 10px; width: 100px;"></div></div>
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	<div style="text-align: right;"><div style="border-bottom: 1px solid blue; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px dashed pink; height: 10px; width: 100px; margin-bottom: 5px;"></div><div style="border-bottom: 1px solid blue; height: 10px; width: 100px;"></div></div>
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Lesson 2.1 Comparing Numbers

Tally Marks

1 = |

2 = ||

3 = |||

4 = ||||

5 = ~~||||~~ |6 = ~~||||~~ ||

Tally marks can help you find the **greater** number.

4 (||||) is greater than 3 (|||).

7 (~~||||~~ ||) is greater than 6 (~~||||~~ |).

Circle the **greater** number. Draw tally marks to show your thinking.

5

8

Look at the number. Write a number that is **greater**. Draw tally marks to show your thinking.

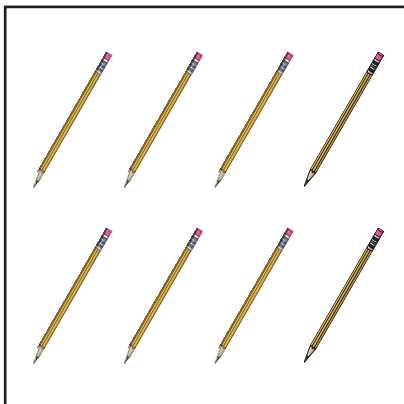
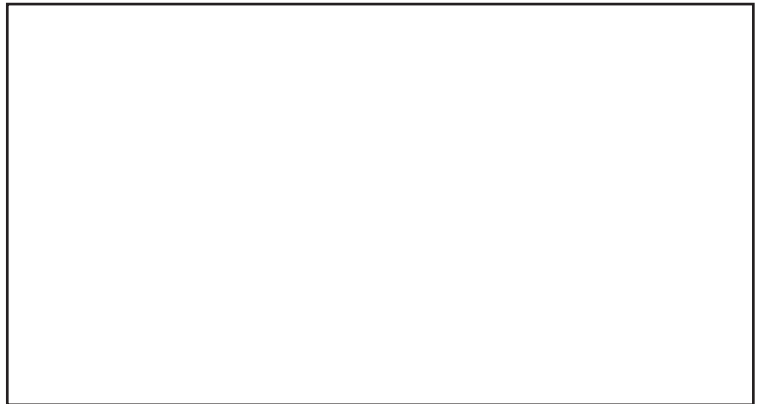
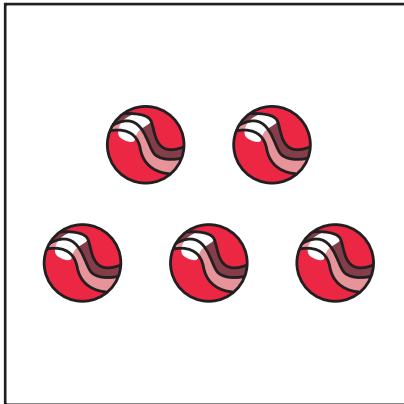
4

Lesson 2.1 Comparing Numbers

Count the stars on the left. Then, count the stars on the right. The number of stars on the right is **less than** the number of stars on the left.

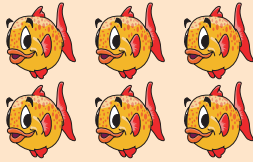


Count the objects on the left. On the right, draw a group of objects. The number of objects on the left should be **less than** the number of objects on the right.

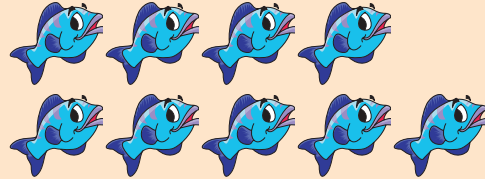


Lesson 2.1 Comparing Numbers

To determine the number that is less, draw the amount of objects given under each number.

6

is less than

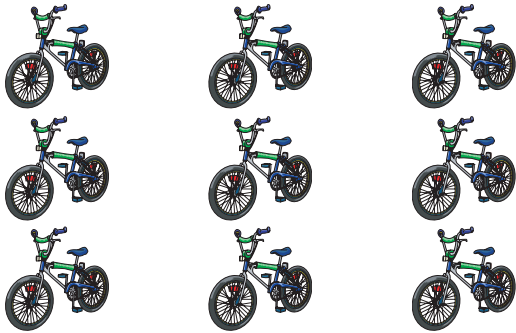
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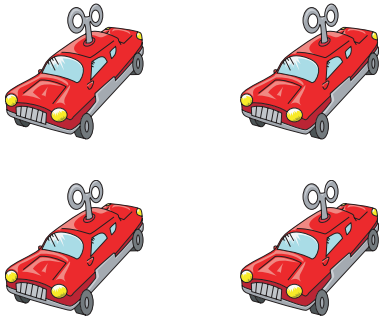
Circle the number that is **less**. Draw pictures to show your thinking.

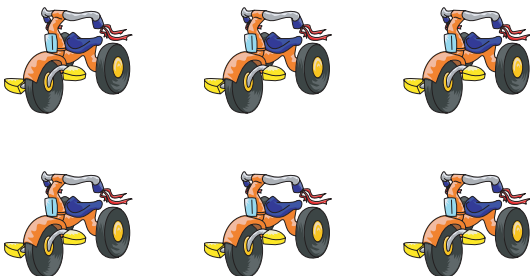
8**2****3****4**

Lesson 2.1 Comparing Numbers

Count the objects on the left. On the right, write a number that is **less than** the amount on the left. Draw a picture to help you.







Lesson 2.1 Comparing Numbers

Tally Marks

1 = |

2 = ||

3 = |||

4 = ||||

5 = ~~||||~~6 = ~~||||~~|

Tally marks can help you find the number that is **less**.

2 (||) is greater than 4 (||||).

5 (~~||||~~) is greater than 8 (~~||||~~||||).

Circle the number that is **less**.
Draw tally marks to show your thinking.

6

9

Look at the number. Write a number that is **less**. Draw tally marks to show your thinking.

10

Lesson 2.1 Comparing Numbers

Write a number that is **greater than** the number given. Draw pictures to show your thinking.

2

6


Write a number that is **less** than the number given. Draw pictures to show your thinking.

7

4

Lesson 2.1 Comparing Numbers

Write a number that is **greater** than the number given. Draw tally marks to show your thinking.

3**5**

Write a number that is **less** than the number given. Draw tally marks to show your thinking.

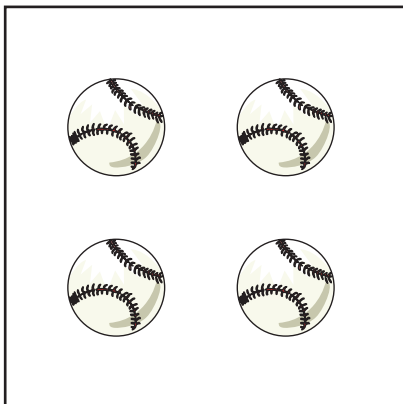
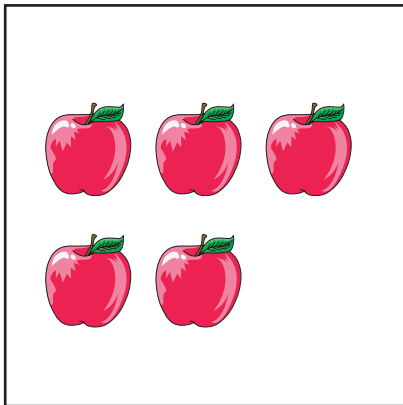
8**9**

Lesson 2.1 Comparing Numbers

Count the objects on the left. Then, count the objects on the right.
The number of objects on the left is **equal to** the number of objects on the right.

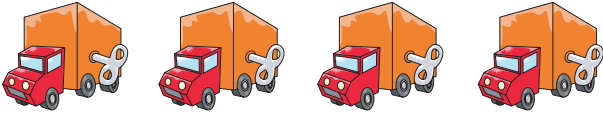


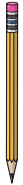
Count the objects on the left. On the right, draw a number of objects that is **equal to** the number shown.



Lesson 2.1 Comparing Numbers

Count the objects on the left. On the right, write the number. Draw a number of objects that is **equal to** the number shown.

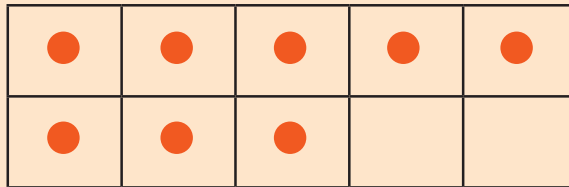
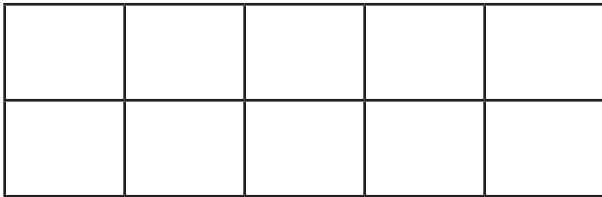
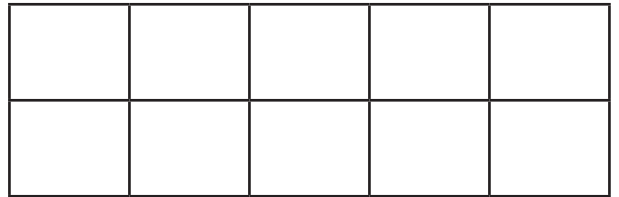
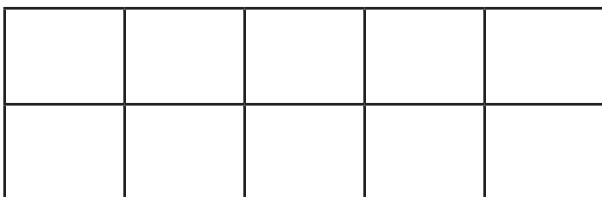
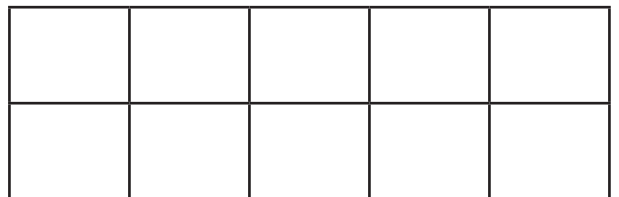






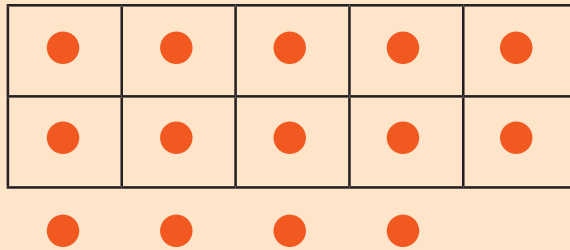
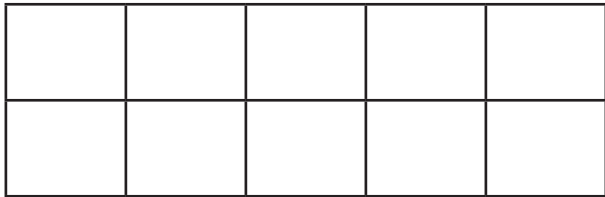
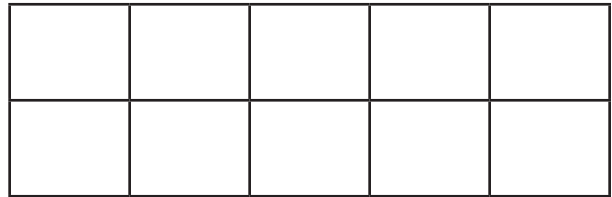
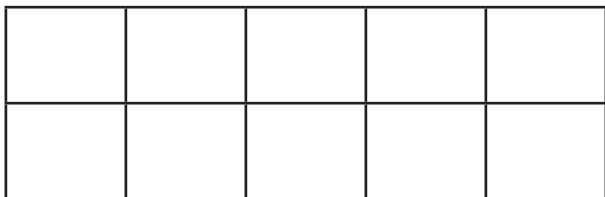
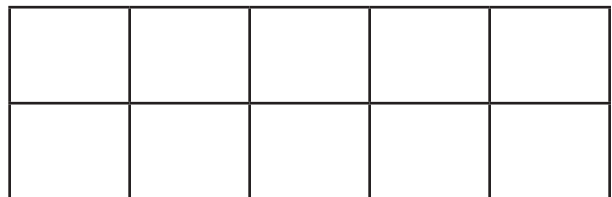
Lesson 2.2 Composing Numbers

Use the ten frame to show the number.

8**4****6****1****7**

Lesson 2.2 Composing Numbers

Use the ten frame to show the number.

14**11****16****15****19**

Lesson 2.2 Composing Numbers

Draw dots in each ten frame to show the number. Then, write numbers to answer the questions.

3

How many spaces
in the ten frame
are empty?

17

How many dots
are outside the
frame?

19

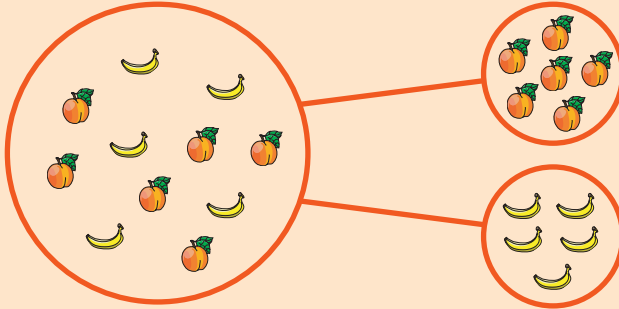
How many dots
are inside the
frame?

5

How many more
dots are needed
to make 10?

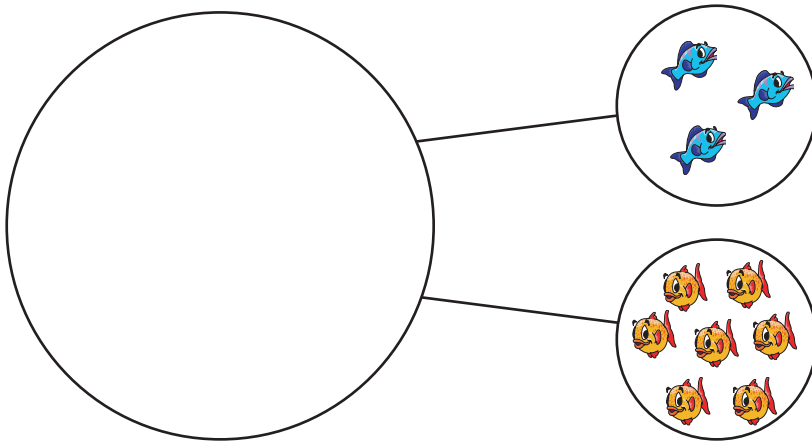
Lesson 2.2 Composing Numbers

To compose the number 11, count the total amount of the two smaller groups.

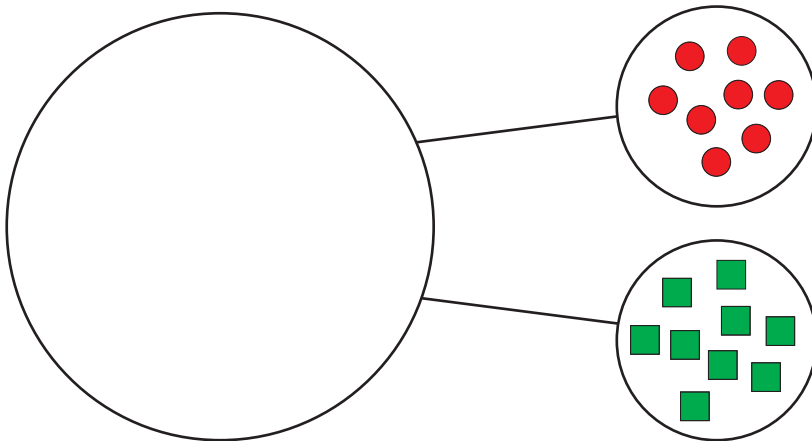


6 and 5 is 11.

Draw a picture to compose the number.



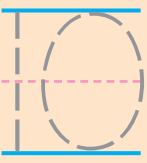
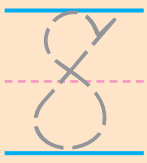
3 and 7 is 10.

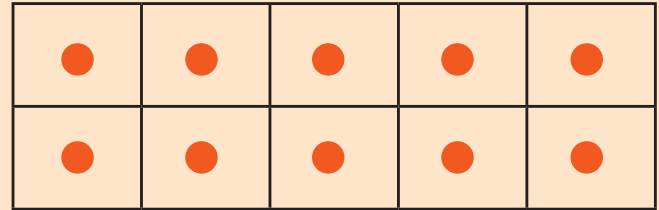


8 and 9 is 17.

Lesson 2.3 Decomposing Numbers

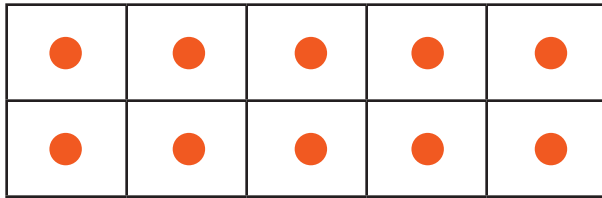
You can use a ten frame and dots to show a number sentence with 10 in it.

18 is  and .

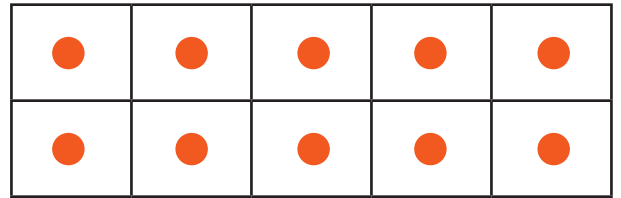


Write the number sentence shown in the ten frame.

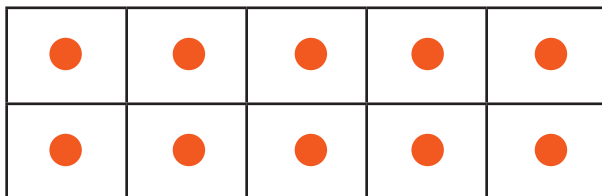
13 is _____ and _____.



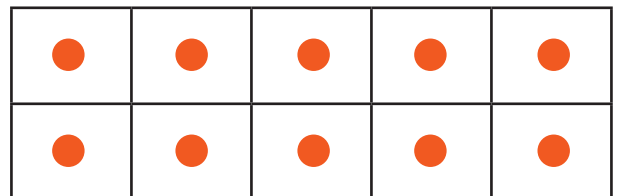
12 is _____ and _____.



11 is _____ and _____.

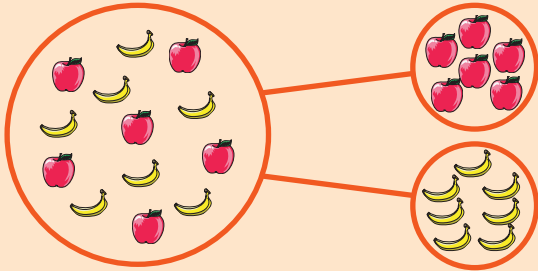


14 is _____ and _____.



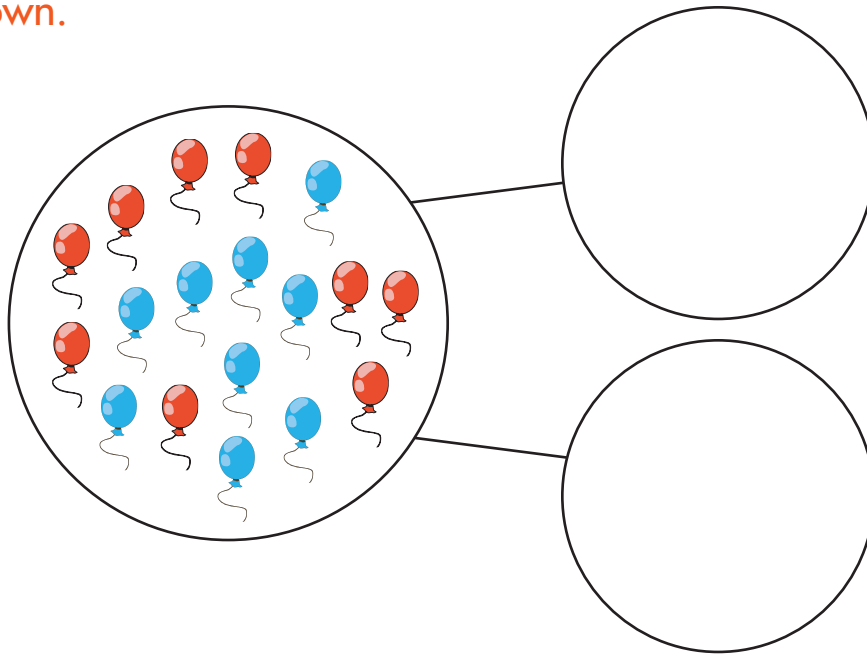
Lesson 2.3 Decomposing Numbers

To decompose the number 13, sort the objects shown into smaller groups.



13 is 6 and 7 .

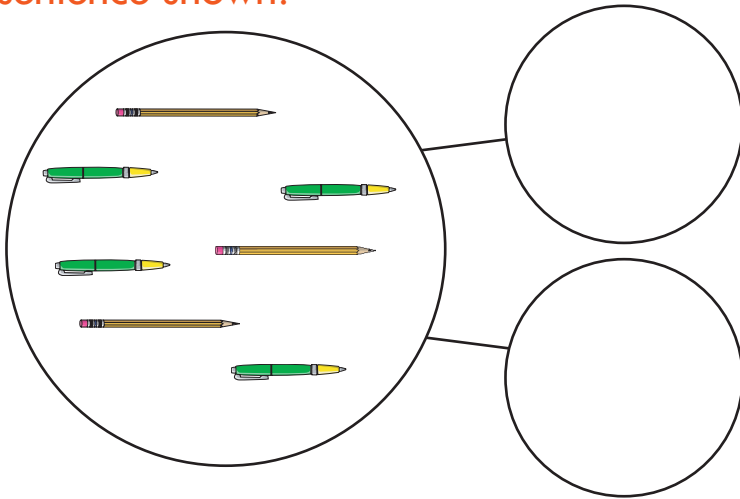
Draw a picture to decompose the number. Then, write the number sentence shown.



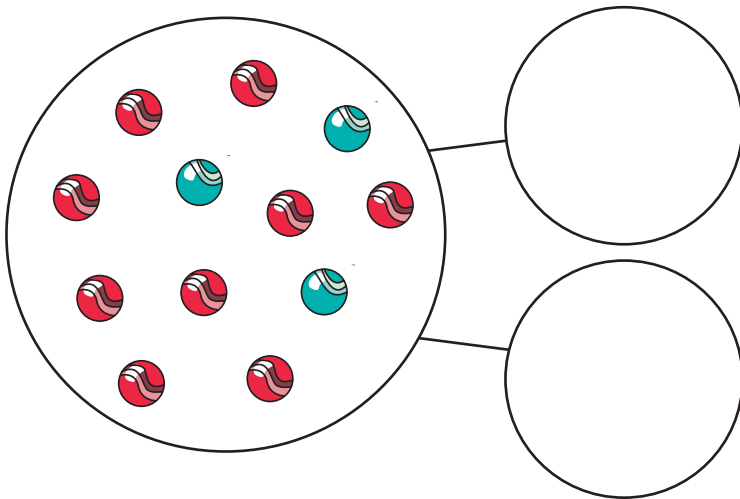
18 is _____ and _____ .

Lesson 2.3 Decomposing Numbers

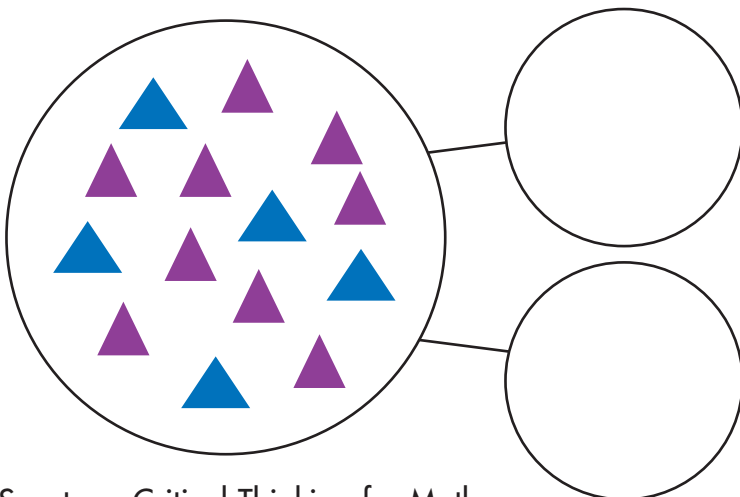
Draw a picture to decompose the number. Then, write the number sentence shown.



7 is _____ and _____ .



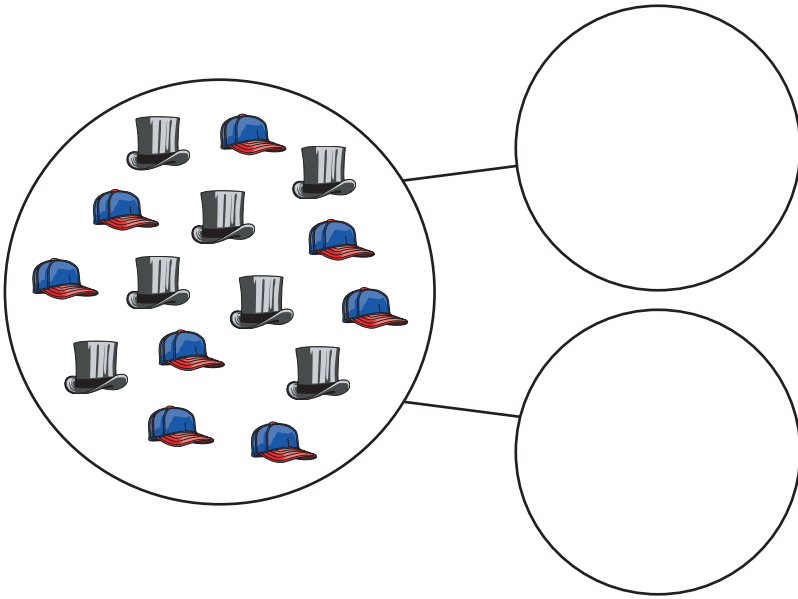
12 is _____ and _____ .



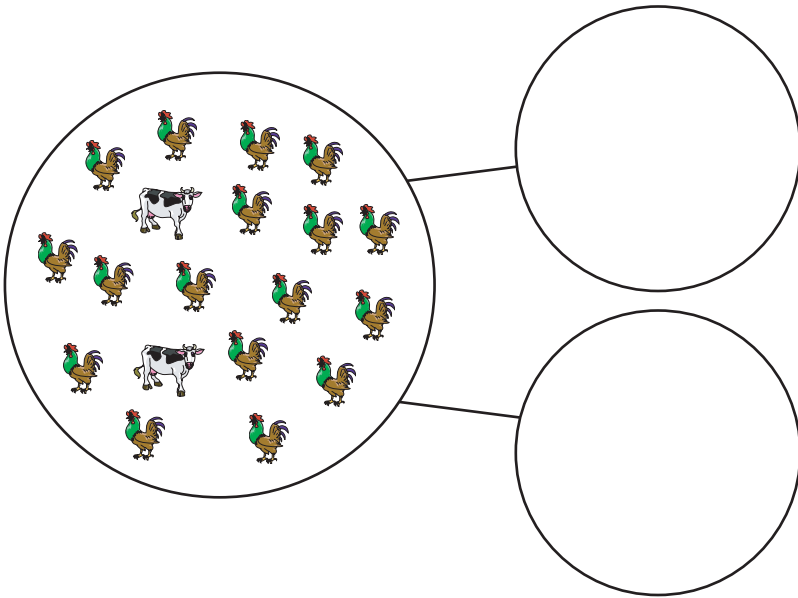
14 is _____ and _____ .

Lesson 2.3 Decomposing Numbers

Draw a picture to decompose the number. Then, write the number sentence shown.



15 is _____ and _____ .



19 is _____ and _____ .



Check What You Learned

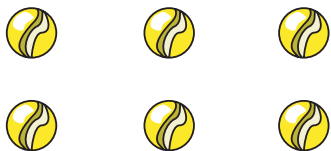
Counting and Writing Numbers

1. Circle the **greater** number. Draw a picture to show your thinking.

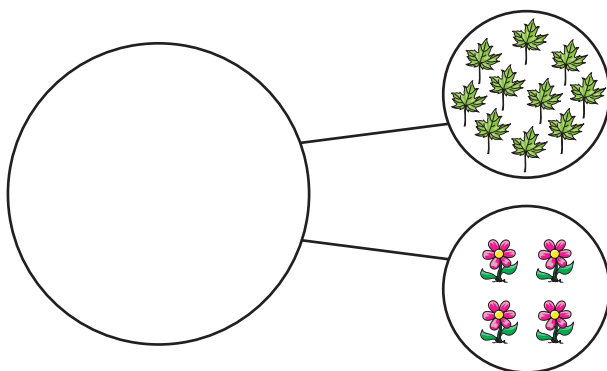
8

2

2. Count the marbles on the left. On the right, draw a group of marbles that has **more**.

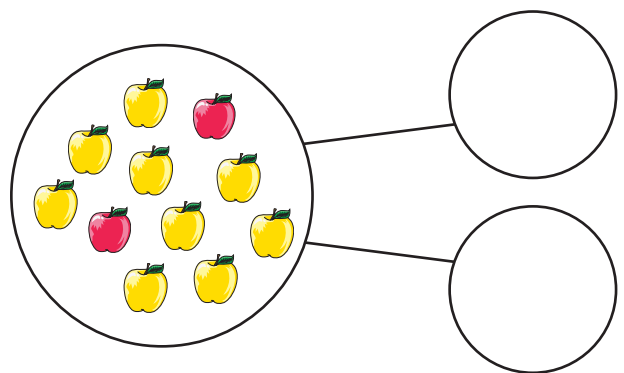


3. Draw a picture to compose the number.



10 and 4 is 14.

4. Draw a picture to decompose the number. Then, write the number sentence shown.

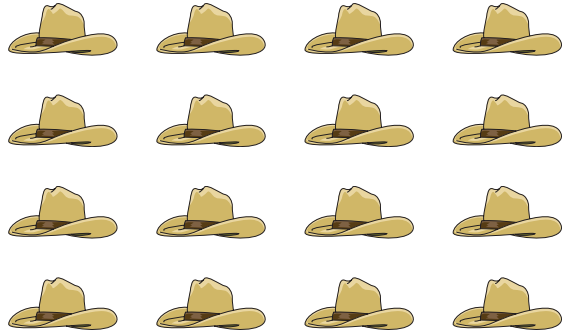


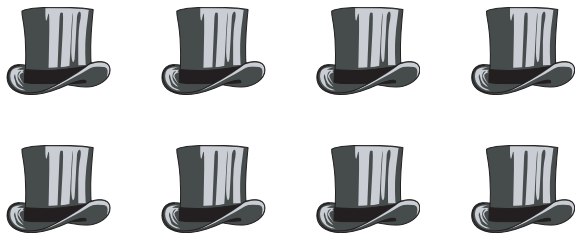
11 is _____ and _____ .

Mid-Test Chapters 1–2

Circle the number of objects given. Then, write the number.

1. **29**





































































































2. **13**

3. **4**

4. **11**

Mid-Test Chapters 1–2

5. Count **100** balloons by ones and by tens. Then, color **45** balloons purple. Color **55** balloons yellow.

										10
										20
										30
										40
										50
										60
										70
										80
										90
										100

Mid-Test Chapters 1–2

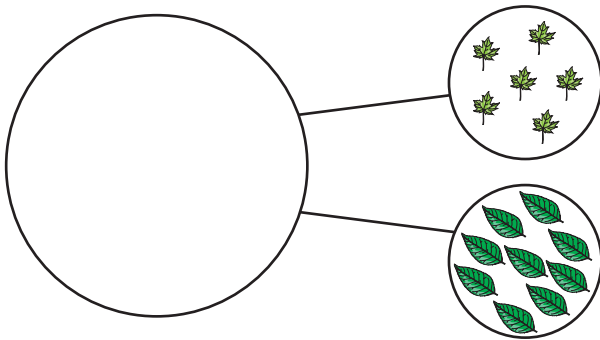
6. Circle the **lower** number. Draw a picture to show your thinking.

3**9**

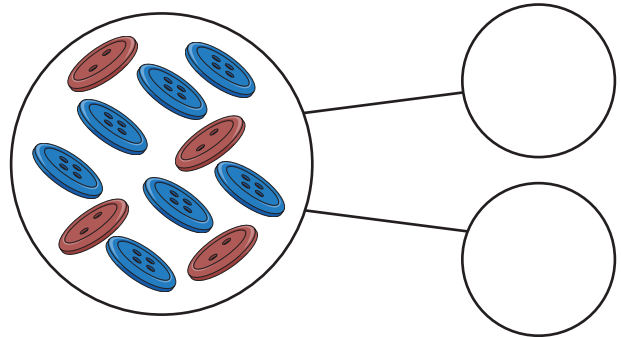
7. Count the stars on the left. On the right, draw a group of stars that has **less**.



8. Draw a picture to compose the number.

**6 and 9 is 15.**

9. Draw a picture to decompose the number. Then, write the number sentence shown.



10 is _____ and _____ .

**Check What You Know****Adding and Subtracting**

Draw objects to represent the numbers in each problem. Then, solve the problems.

1.

$$5 - 4 =$$

2.

$$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 6 \\ - 2 \\ \hline \end{array}$$

4.

$$1 + 8 =$$

5.

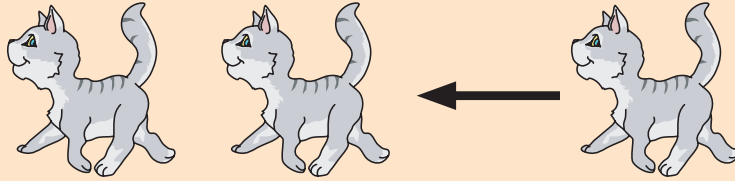
$$\begin{array}{r} 10 \\ - 3 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

Lesson 3.1 Understanding Addition

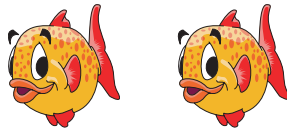
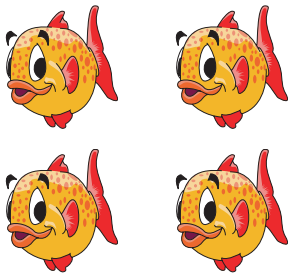
Two kittens are joined by 1 more kitten. How many kittens are there now? To find out, count the total number of kittens.



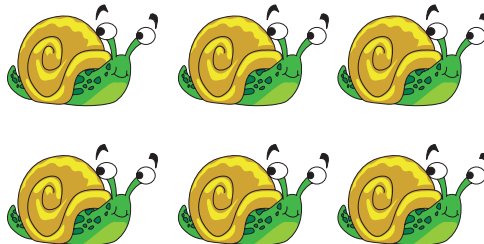
There are 3 kittens now.

Note to parents: Ask your child to explain his or her thinking for each answer.

1. Four fish are joined by 2 more fish. Count the total number of fish. Write the number.

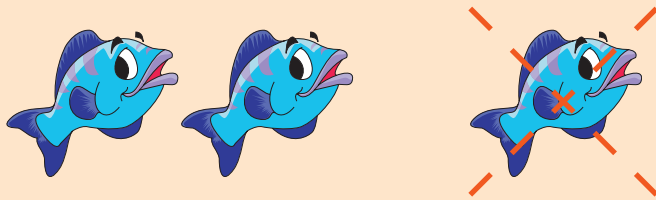


2. One snail is joined by 6 snails. Count the total number of snails. Write the number.



Lesson 3.2 Understanding Subtraction

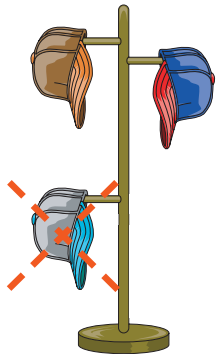
There are 3 fish in a pond. One swims away. How many fish are there now? To find out, count the number of fish that are left.



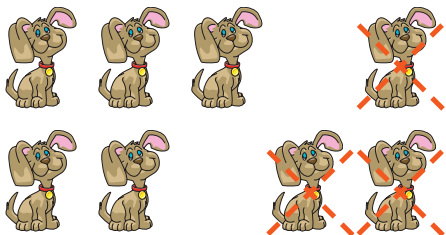
There are 2 fish left.

Note to parents: Ask your child to explain his or her thinking for each answer.

There are 3 baseball caps hanging on a hat rack. One cap is taken away. Count the number of caps that are left. Write the number.



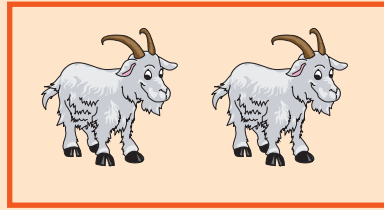
There are 8 dogs at the dog park. Three dogs leave to go home with their owners. Count the number of dogs that are left. Write the number.



Lesson 3.3 Addition

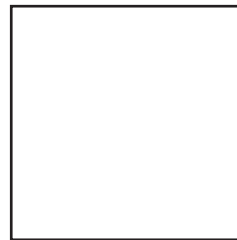
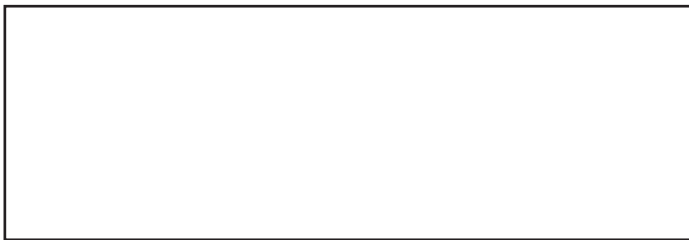
You can use objects to show the numbers in an addition problem. Then, count the total number of objects to solve.

$$\begin{array}{r} 1 \\ + 2 \\ \hline \end{array}$$

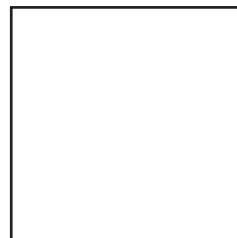


$$= 3$$

Draw objects to show the numbers in each problem. Then, count to solve the problems.



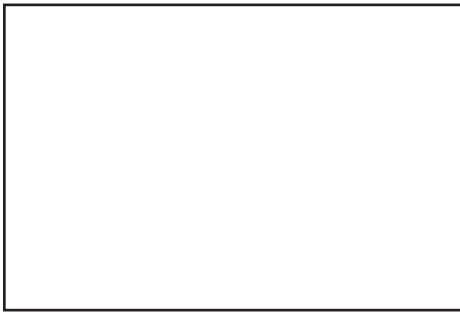
$$7 + 1 = \begin{array}{c} \text{---} \\ \text{---} \\ \text{---} \end{array}$$



$$5 + 2 = \begin{array}{c} \text{---} \\ \text{---} \\ \text{---} \end{array}$$

Lesson 3.3 Addition

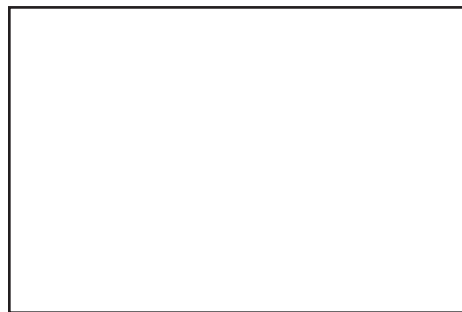
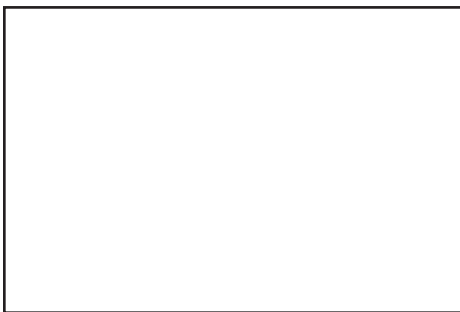
Draw objects to show the numbers in each problem. Then, count to solve the problems.



$$\begin{array}{r} 1 \\ + 6 \\ \hline \\ \hline \end{array}$$



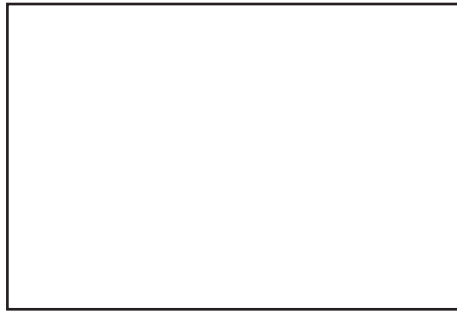
$$\begin{array}{r} 2 \\ + 1 \\ \hline \\ \hline \end{array}$$



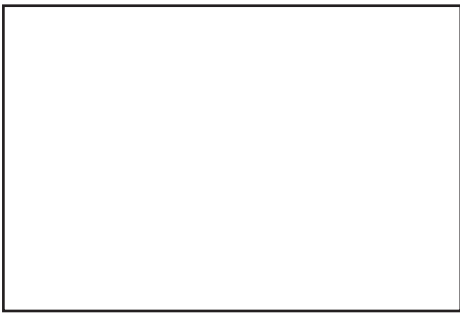
$$\begin{array}{r} 3 \\ + 6 \\ \hline \\ \hline \end{array}$$

Lesson 3.3 Addition

Draw objects to show the numbers in each problem. Then, count to solve the problems.



$$\begin{array}{r} 6 \\ + 4 \\ \hline \\ \end{array}$$



$$\begin{array}{r} 4 \\ + 4 \\ \hline \\ \end{array}$$



$$\begin{array}{r} 8 \\ + 1 \\ \hline \\ \end{array}$$

Lesson 3.3 Addition

Draw objects to show the numbers in each problem. Then, count to solve the problems.



$$\begin{array}{r} 5 \\ + 1 \\ \hline \end{array}$$



$$\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$$



$$\begin{array}{r} 4 \\ + 1 \\ \hline \end{array}$$

Lesson 3.4 Subtraction

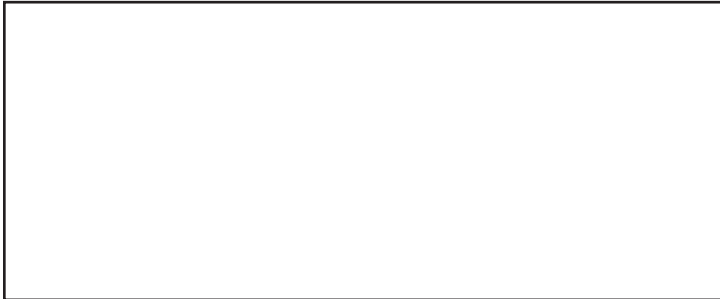
You can use objects to show the numbers in a subtraction problem. Cross out the number of objects being taken away. Then, count how many are left.

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$



$$= 4$$

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.



$$9 - 4 =$$



$$7 - 5 =$$

Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

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

$$\begin{array}{r} 8 \\ - 7 \\ \hline \\ \hline \\ \hline \end{array}$$

Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

$$\begin{array}{r} 7 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 3 \\ \hline \end{array}$$

$$8 - 6 = \underline{\hspace{2cm}}$$

$$9 - 3 = \underline{\hspace{2cm}}$$

Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

$$\begin{array}{r} 4 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 2 \\ \hline \end{array}$$

$$6 - 6 =$$

$$9 - 1 =$$

$$\begin{array}{r} 2 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

Lesson 3.5 Addition in the Real World

Daniel picked 5 apples. Sam picked 3 apples. Draw a picture to show how many apples they picked altogether.

First, draw how many apples Daniel picked. Then, draw how many apples Sam picked. Count both Daniel and Sam's apples to determine how many they picked altogether.

Daniel**Sam**

$$5 + 3 = \underline{8}$$

Note to parents: Ask your child to explain his or her thinking for each answer.

Kady blew up 5 balloons for the harvest party. Lisa blew up 3 balloons. Draw a picture to show how many balloons the girls blew up together.

Kady**Lisa**

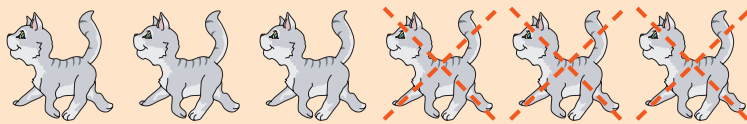
The girls blew up _____ balloons together.

Lesson 3.6 Subtraction in the Real World

Ramsey has 6 cats at his house. Then, 3 cats run away. How many cats does Ramsey have now? Draw a picture to help you solve the problem.

First, draw how many cats Ramsey has. Then, cross out the number of cats that run away. Count the cats that are not crossed out to find your answer.

Ramsey



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

Note to parents: Ask your child to explain his or her thinking for each answer.

There are 4 fish in the fish tank in Mrs. Webster's room. Then, 2 fish are taken out of the tank. How many fish are left in the tank? Draw a picture to help you solve the problem.

Mrs. Webster's Fish Tank

There are _____ fish left in the tank.

Lesson 3.7 Making 10

To make 10, first count how many birds there are. Then, draw enough birds to make a group of 10. Count the number of birds you drew and write it on the line.



$$6 + \underline{4} = 10$$

Draw objects in each box to make each group 10. Count the number of objects drawn and write it on the line.

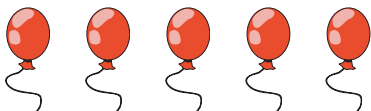
Note to parents: Ask your child to explain how he or she came up with each answer.



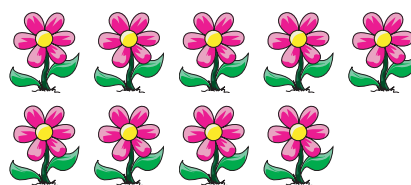
$$7 + \underline{\quad} = 10$$



$$8 + \underline{\quad} = 10$$



$$5 + \underline{\quad} = 10$$

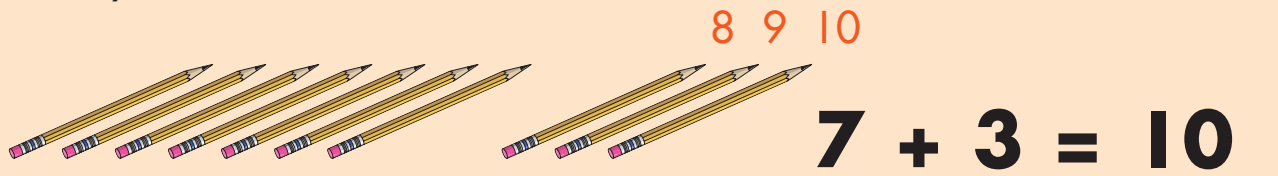


$$9 + \underline{\quad} = 10$$

Lesson 3.8 Making 10 in the Real World

Brooke needs to bring 10 pencils to her first day of school. She has 7 pencils. Draw more pencils to make a set of 10.

First, draw the number of pencils Brooke has. Then, as you draw more pencils, count on from 7 until you get to 10. Count the number of pencils you drew to make 10.



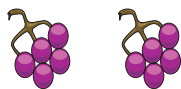
Note to parents: Ask your child to explain his or her thinking for each answer.

William wants to give his mom 10 flowers for Mother's Day. He has 5 flowers. Draw more flowers to make a set of 10.



William needs _____ more flowers to make a set of 10.

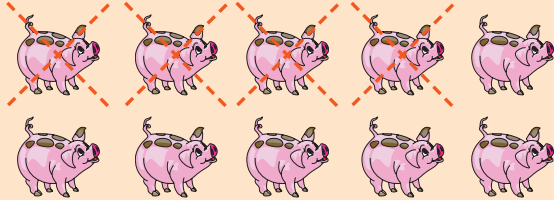
Reba needs 10 pieces of fruit to fill up her fruit basket. She has 2 pieces of fruit. Draw more fruit to show how Reba can fill her fruit basket.



Reba needs _____ more pieces of fruit to make a set of 10.

Lesson 3.9 Subtracting from 10

To subtract from 10, first draw 10 objects. Then, cross out the number of objects you want to subtract. Count the number of objects left and write it on the line.



$$\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$$

Draw 10 objects for each problem. Cross out the number of objects to be subtracted. Count the number of objects left and write it on the line.

Note to parents: Ask your child to explain how he or she came up with each answer.

$$\begin{array}{r} 10 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 2 \\ \hline \end{array}$$

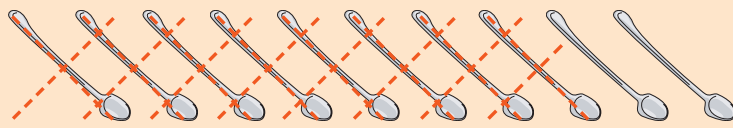
$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 1 \\ \hline \end{array}$$

Lesson 3.10 Subtracting from 10 in the Real World

Jan needs 10 spoons to set the table. If she has only 8 spoons, how many more spoons does she need? Draw a picture to help you solve the problem.

First, draw 10 spoons. Then, cross out the number of spoons Jan already has. Count the spoons that are not crossed out to determine how many more spoons Jan needs.



$$10 - 8 = \underline{2}$$

Amanda needs to bring in 10 cans of food for her class food drive. If she has only 9 cans of food, how many more cans does she need? Draw a picture to help you solve the problem.

Amanda needs _____ can(s) of food.

Quan needs 10 red beads to make his necklace. He has 4 red beads. How many more red beads does Quan need? Draw a picture to help you solve the problem.

Quan needs _____ red bead(s).



Check What You Learned

Adding and Subtracting

Draw objects to represent the numbers in each problem. Then, solve the problems.

1.

$$3 + 3 =$$

2.

$$\begin{array}{r} 7 \\ - 4 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$

4.

$$7 + 2 =$$

5.

$$\begin{array}{r} 10 \\ - 8 \\ \hline \end{array}$$

6.

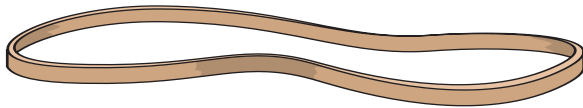
$$\begin{array}{r} 10 \\ - 0 \\ \hline \end{array}$$



Check What You Know

Measurement and Data

1. Draw an object that is **shorter** than a rubber band.



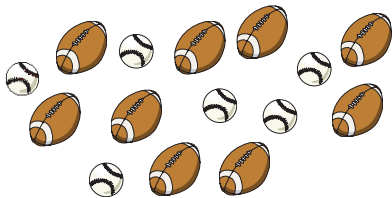
2. Draw an object that is **taller** than a giraffe.



3. Draw an object that is **heavier** than a balloon.



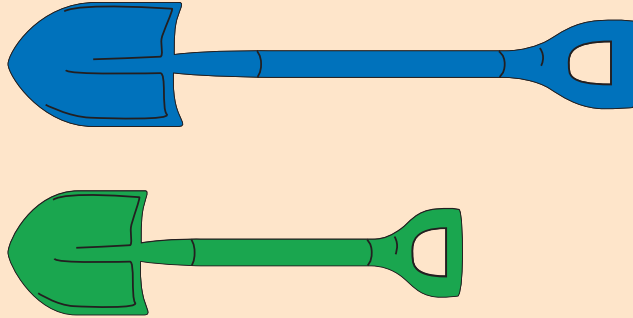
4. Sort this group of objects into 2 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.



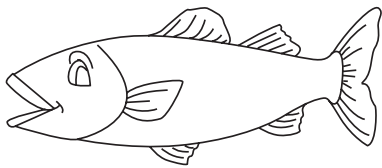
_____	_____
-----	-----
_____	_____

Lesson 4.1 Longer and Shorter

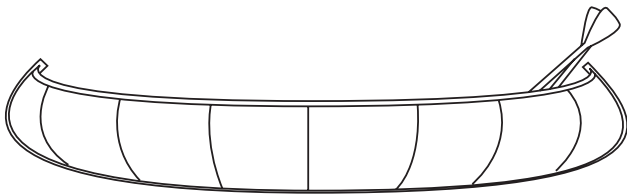
The blue shovel is **longer** than the green shovel. The green shovel is **shorter** than the blue shovel.



Draw a fish that is **longer** than the fish shown.

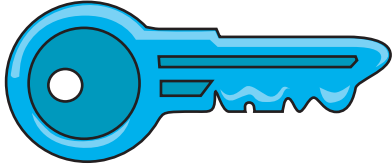


Draw a canoe that is **shorter** than the canoe shown.



Lesson 4.1 Longer and Shorter

Draw an object that is **longer** than the key.



Draw an object that is **shorter** than the seashell.

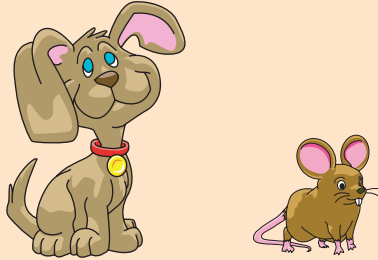


Draw an object that is **shorter** than the pink ribbon.

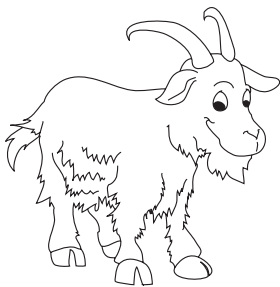


Lesson 4.2 Taller and Shorter

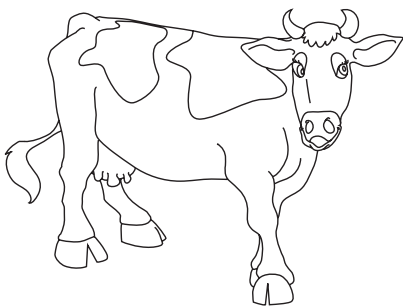
The dog is **taller** than the mouse. The mouse is **shorter** than the dog.



Draw an animal that is **taller** than the goat.

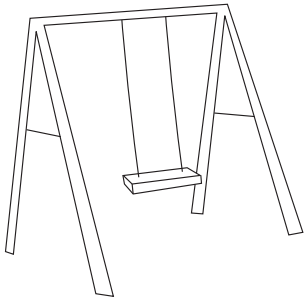


Draw an animal that is **shorter** than the cow.

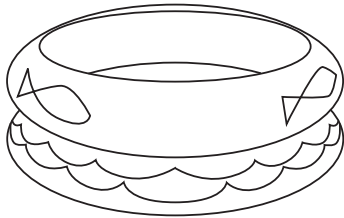


Lesson 4.2 Taller and Shorter

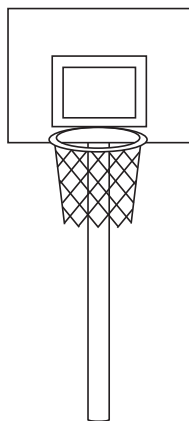
Draw an object that is **shorter** than the swing set.



Draw an object that is **taller** than the wading pool.

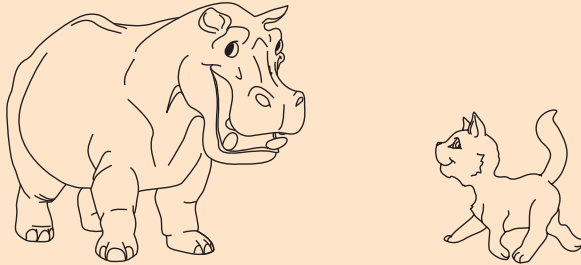


Draw an object that is **shorter** than the basketball hoop.

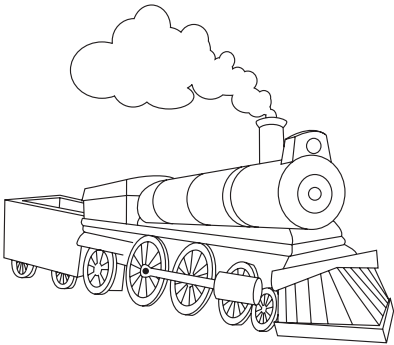


Lesson 4.3 Heavier and Lighter

The hippopotamus is **heavier** than the cat. The cat is **lighter** than the hippopotamus.



Draw something that is **lighter** than a train.

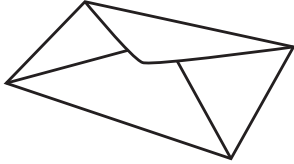


Draw something that is **heavier** than a snail.



Lesson 4.3 Heavier and Lighter

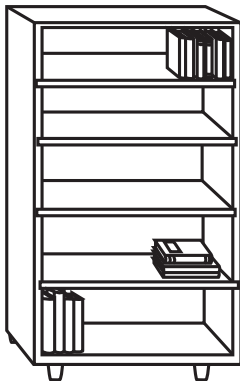
Draw an object that is **heavier** than an envelope.



Draw an object that is **lighter** than a school bus.



Draw an object that is **heavier** than a bookcase.



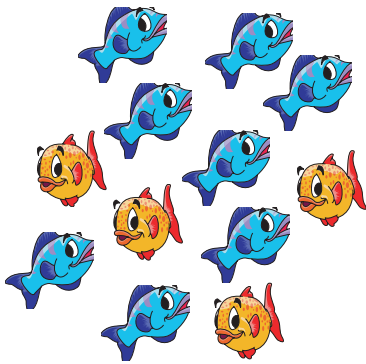
Lesson 4.4 Sorting and Classifying Objects

To sort a group of objects, put different objects in separate groups. Count to find out how many objects are in each group.

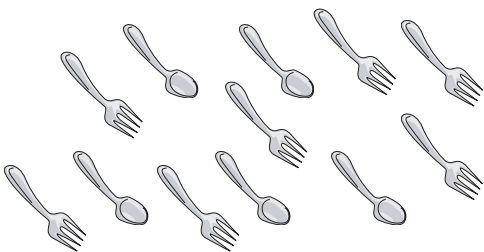


Sort each group of objects into separate groups. Count the number in each group and write it on the line.

Note to parents: Ask your child to explain his or her thinking for each answer.



_____	_____
-----	-----
_____	_____

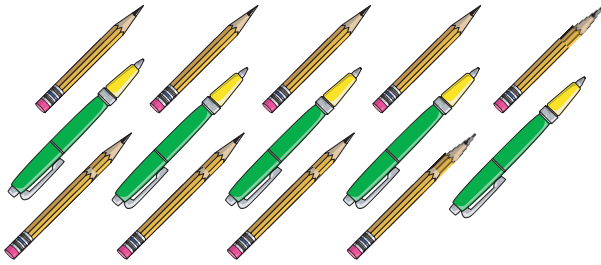


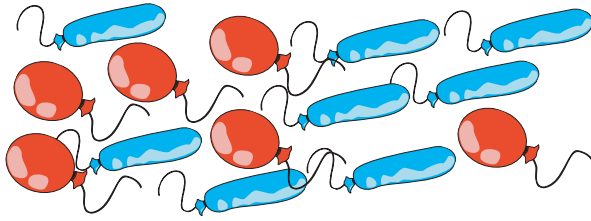
_____	_____
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_____	_____

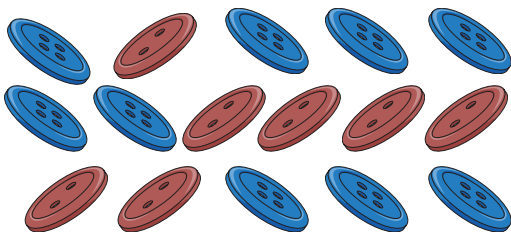
Lesson 4.4 Sorting and Classifying Objects

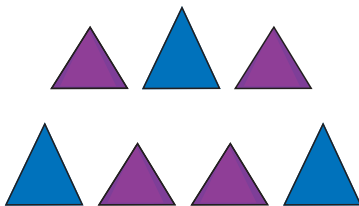
Sort each group of objects into separate groups. Count the number in each group and write it on the line.

Note to parents: Ask your child to explain his or her thinking for each answer.









Lesson 4.4 Sorting and Classifying Objects

Sort this group of objects into 3 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.



Hats

Pairs of shoes

Fruit

 A large empty rectangular box for drawing the sorted hats.

 A large empty rectangular box for drawing the sorted pairs of shoes.

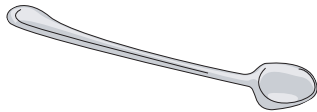
 A large empty rectangular box for drawing the sorted fruit.



Check What You Learned

Measurement and Data

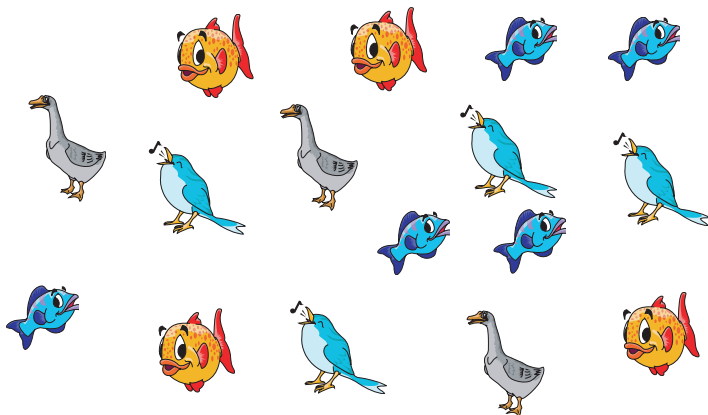
1. Draw an object that is **longer** than the spoon.



2. Draw an object that is **lighter** than a house.



3. Sort this group of objects into 2 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.



_____	_____
-----	-----
_____	_____



Check What You Know

Geometry

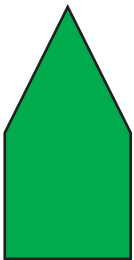
1. Draw 2 different **plane** shapes.

2. Draw 2 different **solid** shapes.

3. Draw 2 more real-world objects that are shaped like a circle.



4. What shapes can you put together to make the following shape?

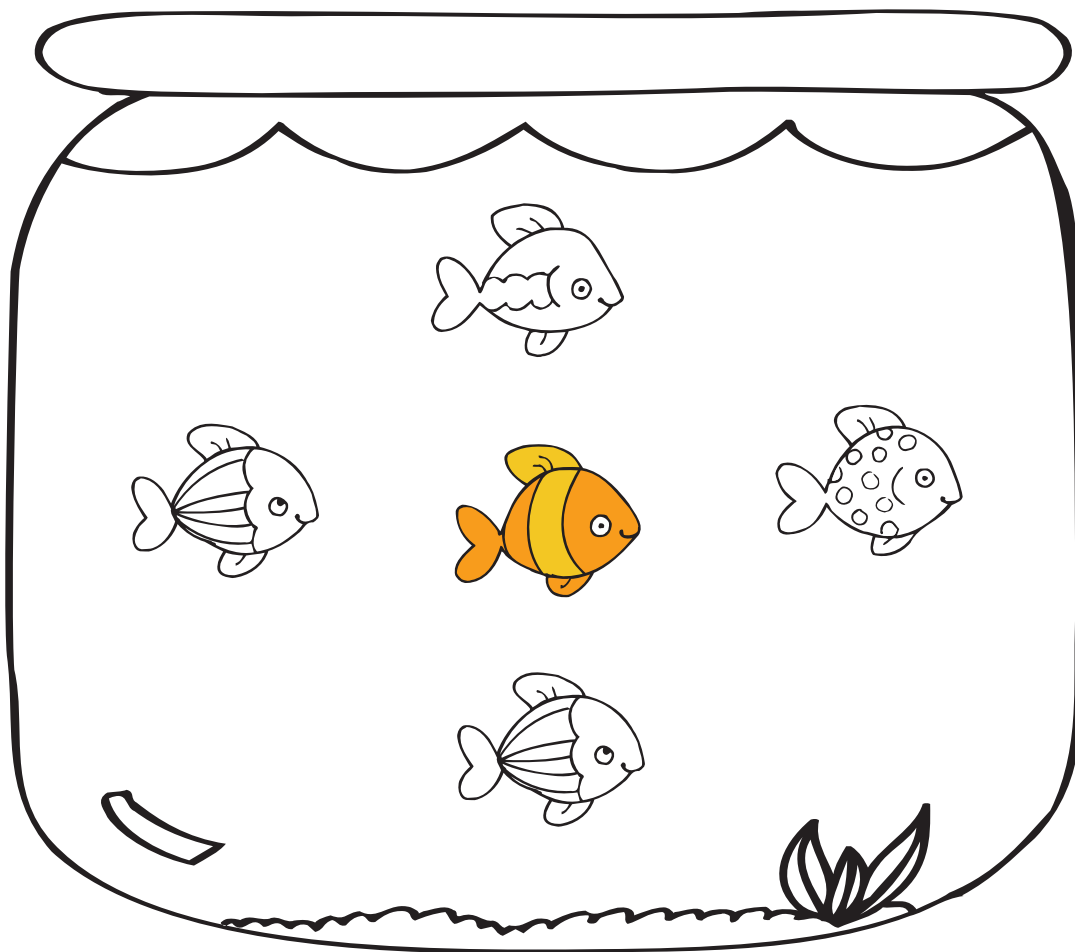




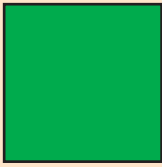
Check What You Know

Geometry

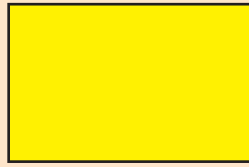
5. **Above** the orange fish, color 1 fish blue. **Below** the orange fish, color 1 fish red. Draw 1 fish **next** to the orange fish.



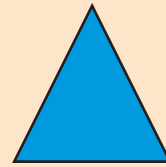
Lesson 5.1 Plane Shapes



square



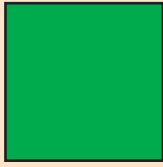
rectangle



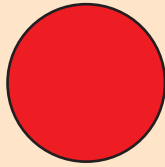
triangle

Draw a picture below using at least 2 squares, 1 rectangle, and 2 triangles.

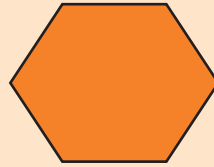
Lesson 5.1 Plane Shapes



square

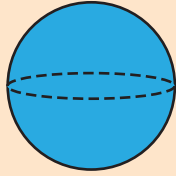


circle



hexagon

Draw a picture below using at least 4 circles, 2 squares, and 1 hexagon.

Lesson 5.2 Solid Shapes

sphere

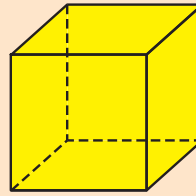


cone

Draw a picture below using at least 3 spheres and 2 cones.

Lesson 5.2 Solid Shapes

cylinder

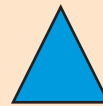
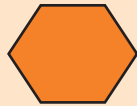


cube

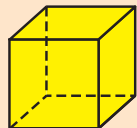
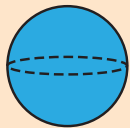
Draw a picture below using at least 2 cylinders and 2 cubes.

Lesson 5.3 Plane and Solid Shapes

These are plane shapes.



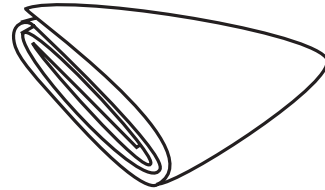
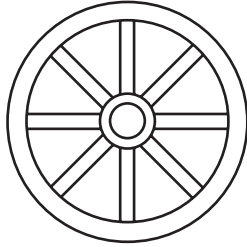
These are solid shapes.



Draw a picture using at least 2 plane shapes and 2 solid shapes.

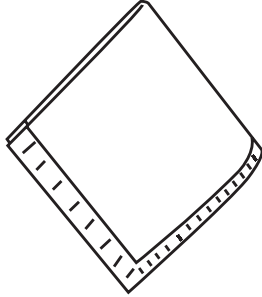
Lesson 5.4 Sorting Shapes in the Real World

Go on a shape hunt. Draw all the circle-shaped objects and triangle-shaped objects in the room you are in. Draw those objects in the correct columns below.



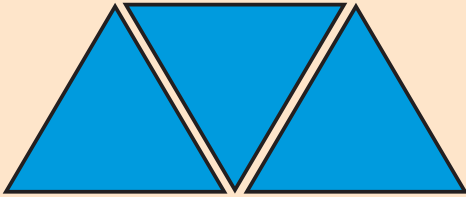
Lesson 5.5 Drawing Shapes in the Real World

Think of objects that are shaped like squares and rectangles. Draw those objects below.

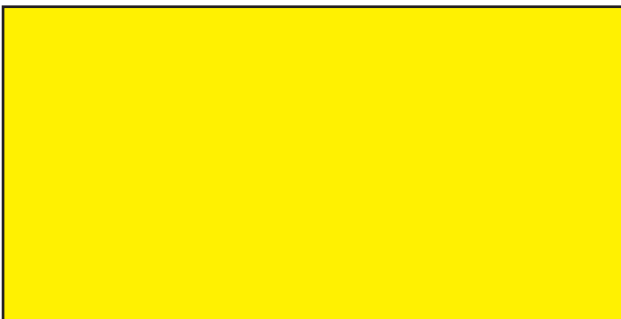
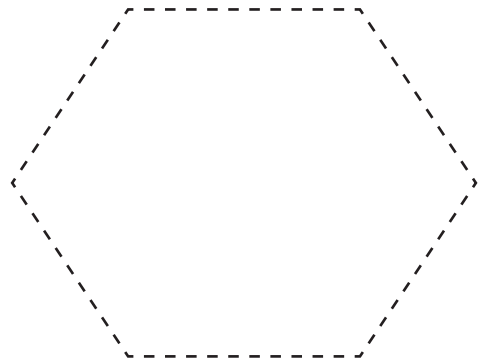
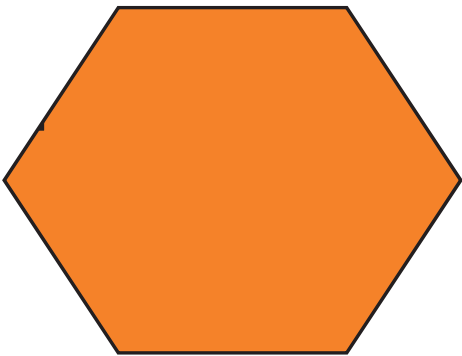


Lesson 5.6 Combining Shapes

You can combine three triangles to make a trapezoid.

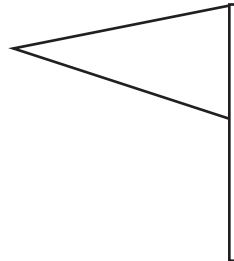
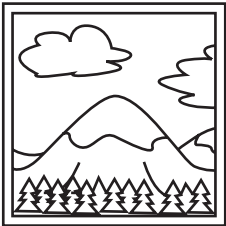
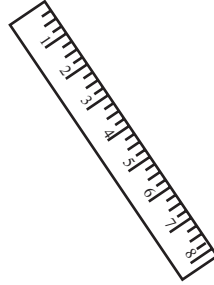


What shapes can you put together to make the following shapes? You can draw on top of the shapes or use pattern blocks to help you.



Lesson 5.7 Finding Shapes in the Real World

Go on a shape hunt. Draw all the objects in the room that are in the shape of a circle, rectangle, square, or triangle. Be sure you are able to tell what shape the object is!



Lesson 5.8 Above, Below, and Next To

Draw 1 animal **above** the dog.

Draw 1 animal **below** the dog.

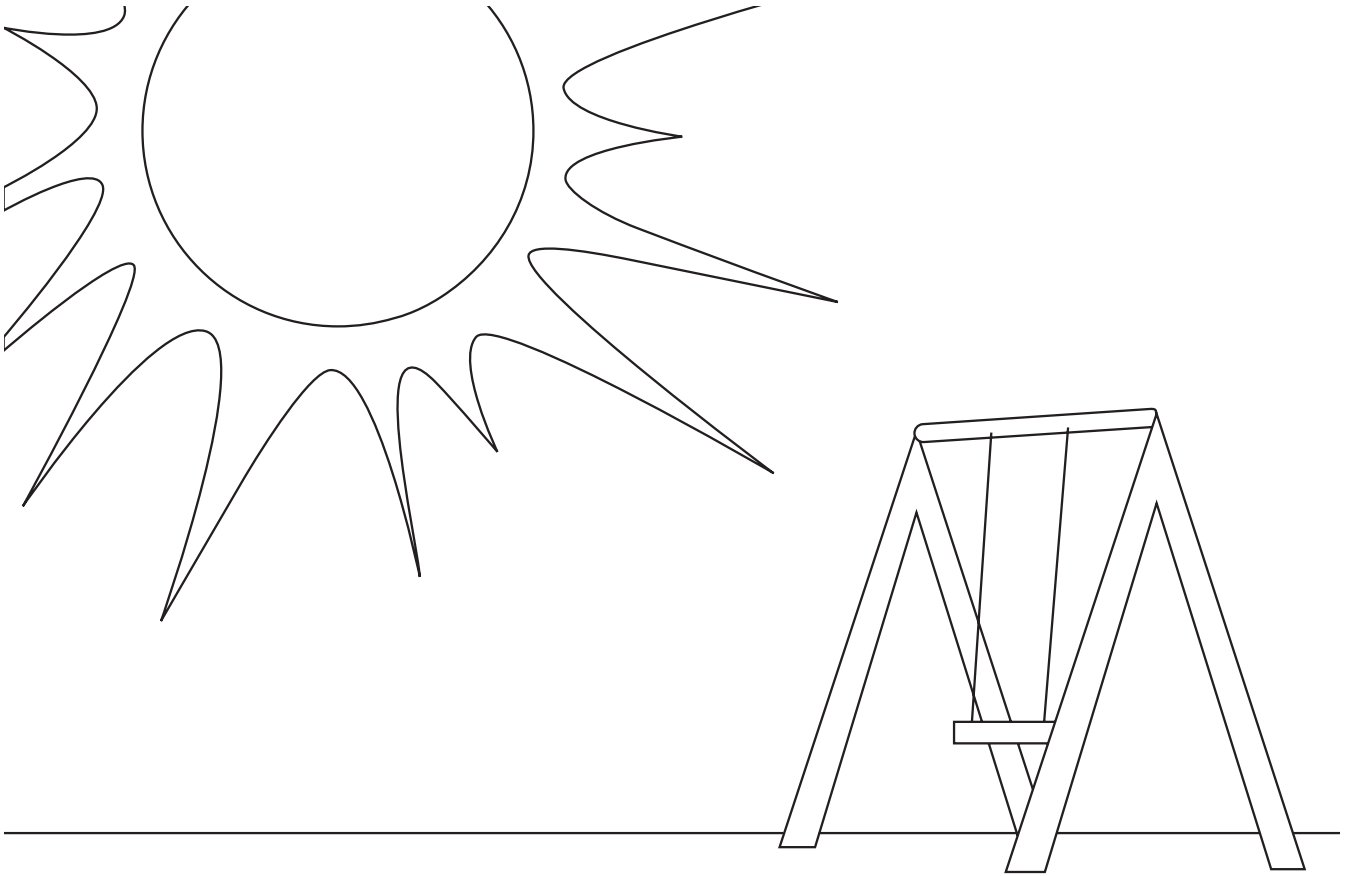
Draw 1 object **below** the dog.

Draw 2 objects that are **next** to each other.



Lesson 5.8 Above, Below, and Next To

- Draw 2 animals **above** the swing set.
Draw 1 animal that is **below** the sun.
Draw 1 object that is **below** the sun.
Draw 2 objects that are **next** to each other.





Check What You Learned

Geometry

1. Draw 3 different **plane** shapes.

2. Draw 3 different **solid** shapes.

3. Draw 2 more real-world objects that are shaped like a **triangle**.



4. What shapes can you put together to make the following shape?



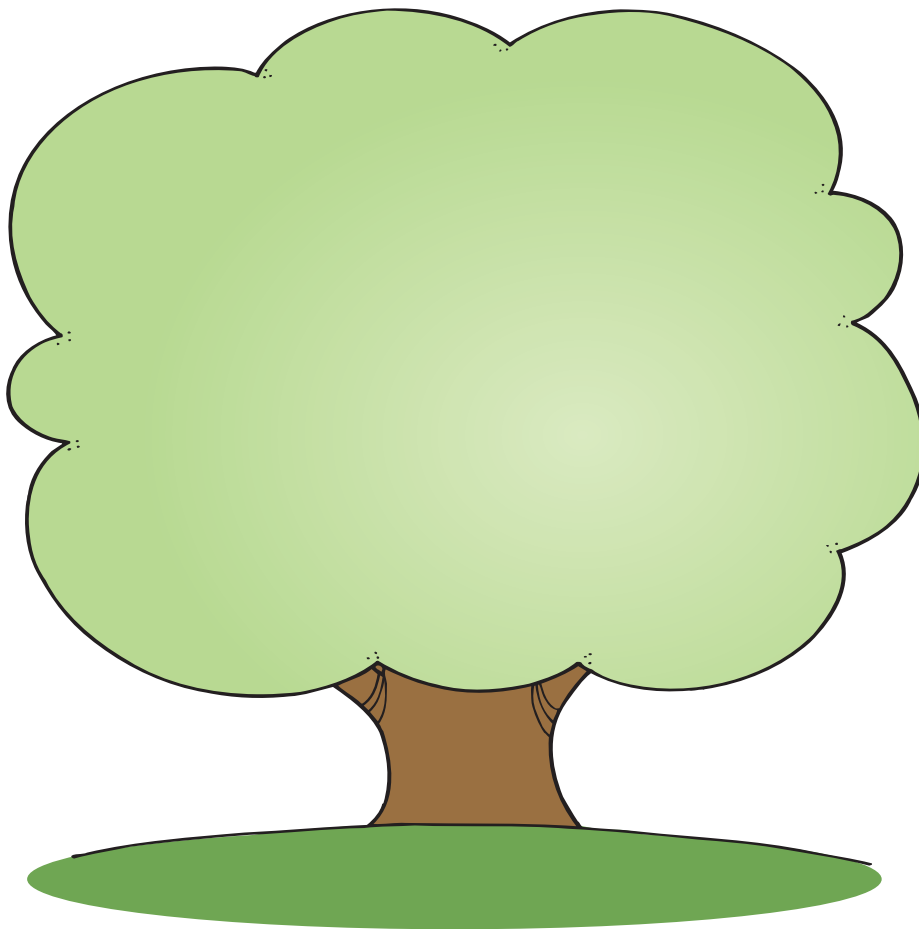


Check What You Learned

Geometry

Follow the directions.

- Draw 1 animal **next** to the tree.
- Draw 1 flower **below** the tree.
- Draw 2 birds **above** the tree.



Final Test Chapters 1–5

Draw objects to make the number given. Then, write the number.

1.

7

2.

15

3.

9

4.

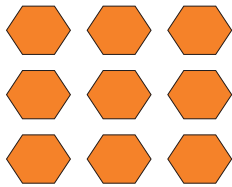
12

Final Test Chapters 1–5

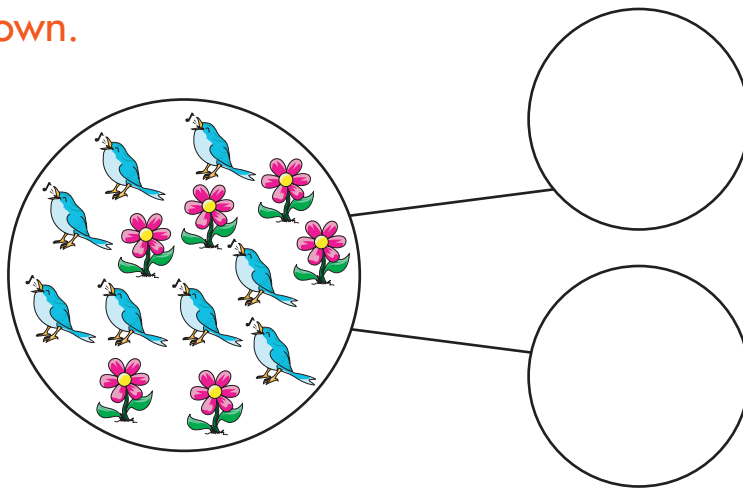
5. Circle the greater number. Draw a picture to show your thinking.

8**3**

6. Count the hexagons on the left. On the right, draw a group of hexagons that has **less than** the group on the left.



7. Draw a picture to decompose the number. Then, write the number sentence shown.



14 is _____ and _____ .

Final Test Chapters 1–5

Draw objects to represent the numbers in each problem. Then, solve the problems.

8.

$$7 - 3 =$$

9.

$$\begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$$

10.

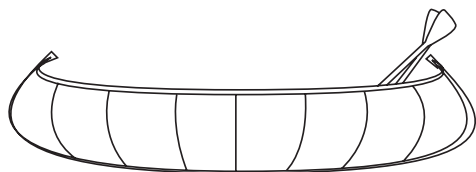
$$\begin{array}{r} 8 \\ + 1 \\ \hline \end{array}$$

11.

$$10 - 2 =$$

Final Test Chapters 1–5

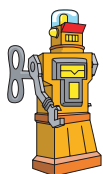
12. Draw an object that is longer than a canoe.



13. Draw an object that is heavier than a bookshelf.



14. Look at the pictures in the two rows. In each row, circle the picture that goes together with the first picture.



Final Test Chapters 1–5

15. Draw a picture that has these items:

- 2 different **plane** shapes **next to** each other
- 1 **solid** shape **below** the plane shapes
- 1 **solid** shape **above** the plane shapes
- 1 **real object** shaped like a **rectangle**
- 1 **real object** shaped like a **circle**

NAME _____

Check What You Know

Counting and Writing Numbers

Draw the number of objects given. Then, write the number.

1. **6** 

6

2. **12** 

12

3. **22** 

22

4. **15** 

15

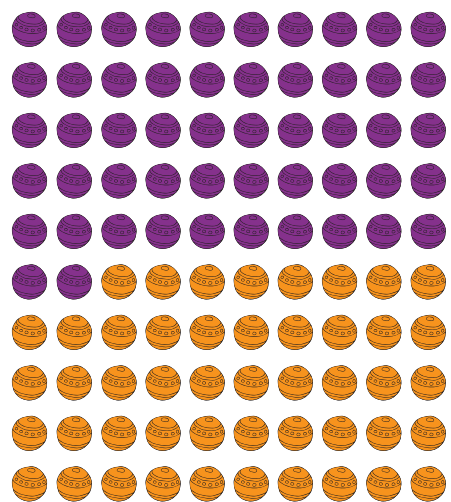
Spectrum Critical Thinking for Math Kindergarten 4 Chapter 1 Check What You Know

NAME _____

Check What You Know

Counting and Writing Numbers

Color **52** balls purple. Color **48** balls orange.

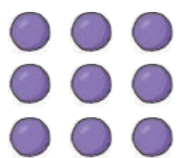


Spectrum Critical Thinking for Math Kindergarten 5 Chapter 1 Check What You Know

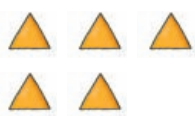
NAME _____

Lesson 1.1 Counting and Writing Numbers to 10


Count the shapes in each group. Draw more shapes so that each group has the given number of shapes. Write the given number on the line.

9 

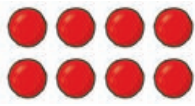
9

5 

5

3 

3

8 


8

Spectrum Critical Thinking for Math Kindergarten 6 Lesson 1.1 Counting and Writing Numbers to 10


NAME _____


Lesson 1.1 Counting and Writing Numbers to 10


The dog has 7 black spots on its body.

7 

Draw the number of spots given on the body of each dog.

10 

4 

9 

6 

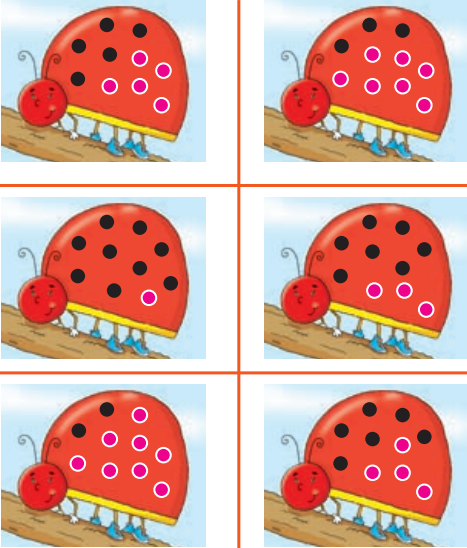
Spectrum Critical Thinking for Math Kindergarten 7 Lesson 1.1 Counting and Writing Numbers to 10

Page 8

NAME _____

Lesson 1.1 Counting and Writing Numbers to 10

Count the number of spots on each ladybug. Draw more spots to make 10.



Spectrum Critical Thinking for Math
Kindergarten
8

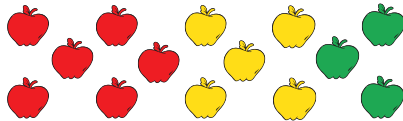
Lesson 1.1
Counting and Writing Numbers to 10

Page 9

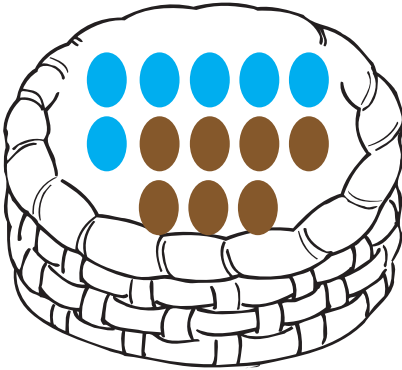
NAME _____

Lesson 1.1 Counting and Writing Numbers to 10

Color 6 apples red. Color 5 apples yellow. Color 3 apples green.



Draw 6 blue eggs and 7 brown eggs in the basket. How many eggs are there in total?



eggs

13

Spectrum Critical Thinking for Math
Kindergarten


Lesson 1.1
Counting and Writing Numbers to 10
9

Page 10

NAME _____

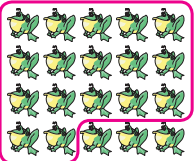
Lesson 1.2 Counting and Writing Numbers to 25

13




Circle the objects to make the given number.

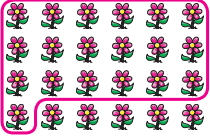
17




23



19



21



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Kindergarten
10

Lesson 1.2
Counting and Writing Numbers to 25

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Lesson 1.2 Counting and Writing Numbers to 25

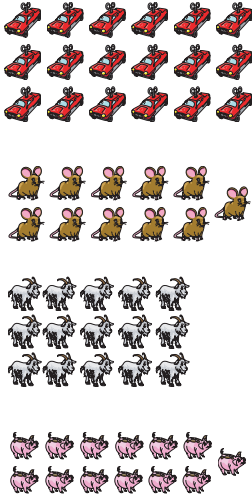
Draw a line to match each number to a group of things.

11

18

13

15



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Lesson 1.2
Counting and Writing Numbers to 25
11

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NAME _____

Lesson 1.2 Counting and Writing Numbers to 25

Draw pictures to show the given number of each object shown.



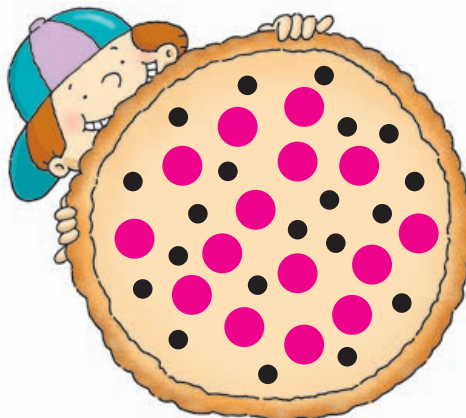
Page 13

NAME _____

Lesson 1.2 Counting and Writing Numbers to 25

Draw **15** pieces of pepperoni on the pizza. Draw **20** black olives on the pizza.

Write the numbers on the line below.



pieces of pepperoni 15

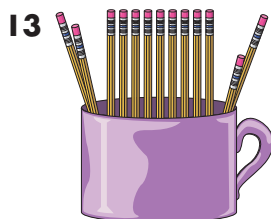
black olives 20

Page 14

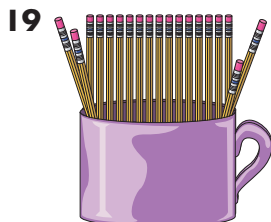
NAME _____

Lesson 1.2 Counting and Writing Numbers to 25

Draw the given number of pencils in each cup. Write the number on each line.



13



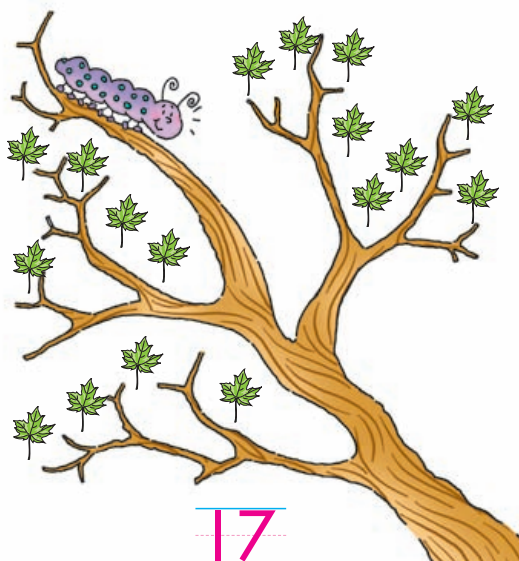
19

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Lesson 1.2 Counting and Writing Numbers to 25

Draw **17** leaves on the branches for the caterpillar to eat. Write the number on the line.



17

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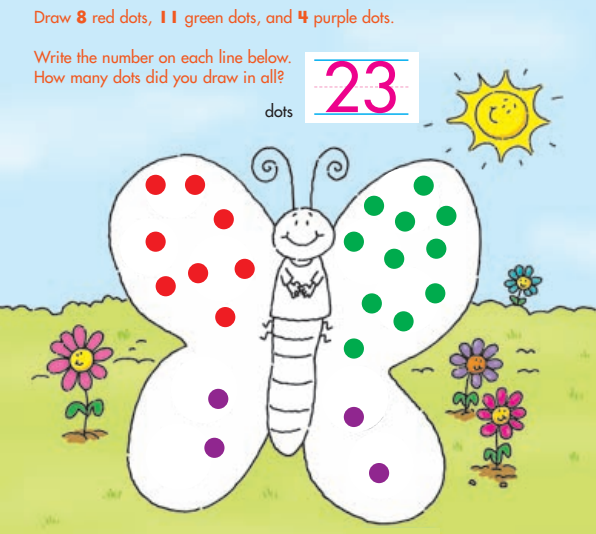
NAME _____

Lesson 1.2 Counting and Writing Numbers to 25

Draw 8 red dots, 11 green dots, and 4 purple dots.

Write the number on each line below.
How many dots did you draw in all?

dots **23**



red **8** green **11** purple **4**

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Lesson 1.2
Counting and Writing Numbers to 25

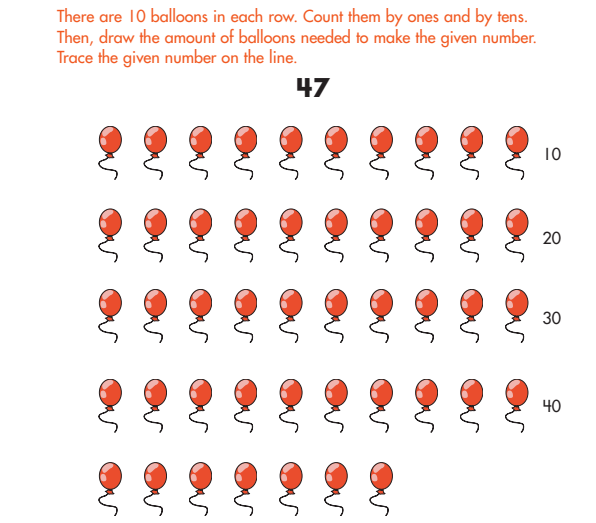
Page 17

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Lesson 1.3 Counting and Writing Numbers to 100

There are 10 balloons in each row. Count them by ones and by tens.
Then, draw the amount of balloons needed to make the given number.
Trace the given number on the line.

47



47

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Kindergarten

Lesson 1.3
Counting and Writing Numbers to 100
17

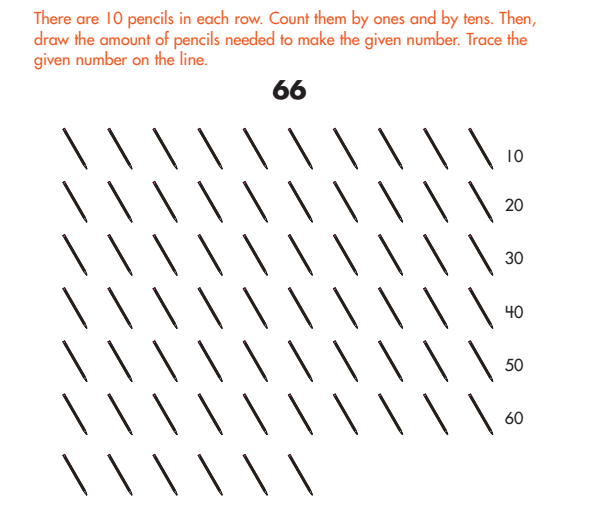
Page 18

NAME _____

Lesson 1.3 Counting and Writing Numbers to 100

There are 10 pencils in each row. Count them by ones and by tens. Then,
draw the amount of pencils needed to make the given number. Trace the
given number on the line.

66



66

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Lesson 1.3
Counting and Writing Numbers to 100

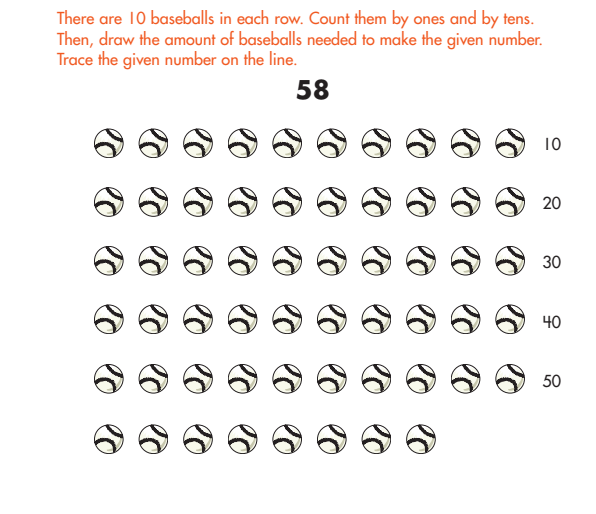
Page 19

NAME _____

Lesson 1.3 Counting and Writing Numbers to 100

There are 10 baseballs in each row. Count them by ones and by tens.
Then, draw the amount of baseballs needed to make the given number.
Trace the given number on the line.

58



58

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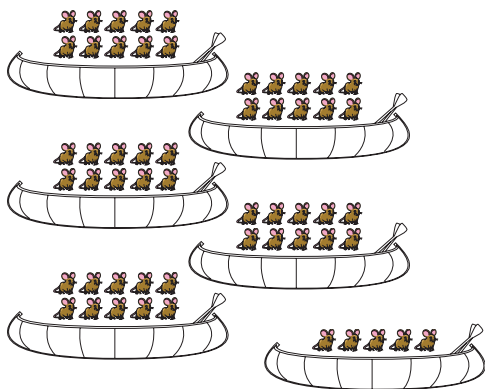
Lesson 1.3
Counting and Writing Numbers to 100
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Lesson 1.3 Counting and Writing Numbers to 100

Count the mice. Draw another canoe. Then, draw more mice in the canoe to make 55 in all. Trace the number on the line.



55

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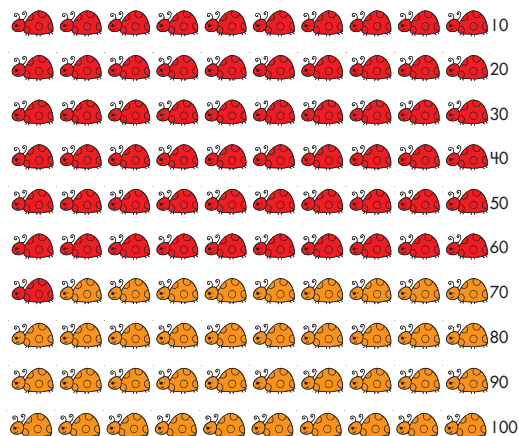
Lesson 1.3
Counting and Writing Numbers to 100

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Lesson 1.3 Counting and Writing Numbers to 100

Count 100 ladybugs by ones and by tens. Then, color 61 ladybugs red. Color 39 ladybugs orange.



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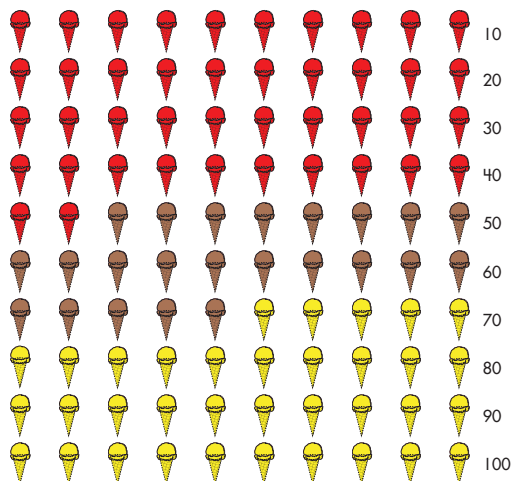
Lesson 1.3
Counting and Writing Numbers to 100
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Lesson 1.3 Counting and Writing Numbers to 100

Count 100 ice cream cones by ones and by tens. Then, color 42 cones red. Color 23 cones brown. Color 35 cones yellow.



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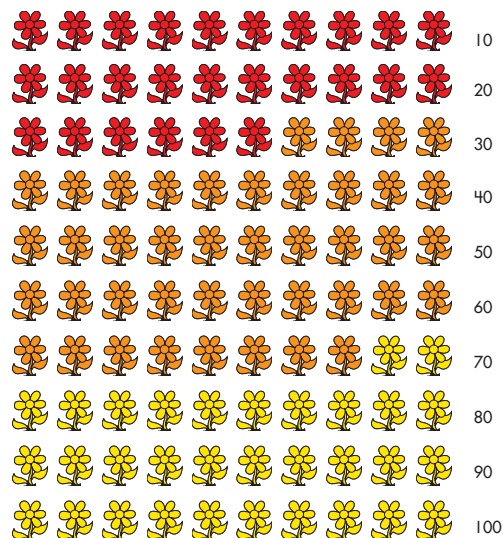
Lesson 1.3
Counting and Writing Numbers to 100

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Lesson 1.3 Counting and Writing Numbers to 100

Count 100 flowers by ones and by tens. Then, color 26 flowers red. Color 42 flowers orange. Color 32 flowers yellow.



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Lesson 1.3
Counting and Writing Numbers to 100
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Lesson 1.3 Counting and Writing Numbers to 100

You can begin with any number and count on.

22 23 24 25 26 27 28

Write the missing number in each row.

8 9 10 11 12 13 14

36 37 38 39 40 41 42

59 60 61 62 63 64 65

78 79 80 81 82 83 84

94 95 96 97 98 99 100

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Lesson 1.3
Counting and Writing Numbers to 100

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Lesson 1.3 Counting and Writing Numbers to 100

Stack the blocks high!
Begin with the number at the bottom. Write one number on each block to count up.

13	25	100
12	24	99
11	23	98
10	22	97
9	21	96
8	20	95
19	71	68
68	70	94

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Lesson 1.3
Counting and Writing Numbers to 100

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Check What You Learned
Counting and Writing Numbers

1. Circle the number of objects given. Write the number on the line.

7  7

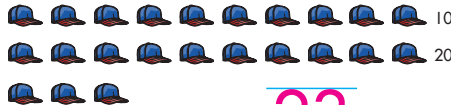
2. Write the missing number in the row. Draw the same number of circles below.

17 18 19 20 21 22 23



3. Count the caps by ones and by tens. Then, draw the number of caps needed to make the given number. Trace the given number.

23



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













































Chapter 1
Check What You Learned

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Check What You Learned
Counting and Writing Numbers

4. Count 100 frogs by ones and by tens. Then, color **66** frogs green. Color **24** frogs blue. Color **10** frogs red.

									10
									20
									30
									40
									50
									60
									70
									80
									90
									100

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Chapter 1
Check What You Learned



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Check What You Know

Working with Numbers

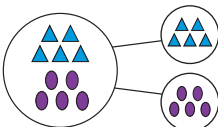
1. Circle the greater number. Draw pictures to show your thinking. **Drawings will vary but may include**

5 **7**  

2. Count the marbles on the left. On the right, draw a group of marbles. The number of marbles on the right should be **less than** the number on the left.

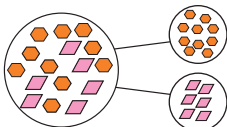
 

3. Draw pictures to compose the number.



5 and 5 is 10.

4. Draw pictures to decompose the number. Then, write the number sentence shown.



16 is 6 and 10.



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Lesson 2.1 Comparing Numbers

Count the objects on the left. Then, count the objects on the right. The group of objects on the right has **more than** the group of objects on the left.

Count the objects on the left. On the right, draw a group of objects that has **more than** the group of objects on the left.

 **Drawings will vary but may include** 

 **Drawings will vary but may include** 

Spectrum Critical Thinking for Math Kindergarten Lesson 2.1 Comparing Numbers 29



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Lesson 2.1 Comparing Numbers

To determine the number that is **greater**, draw the amount of objects given under each number.



9 is more than **2**



 

Circle the **greater** number. Draw pictures to show your thinking.

3 **5** **7** **1**

Answers will vary but may include


Spectrum Critical Thinking for Math Kindergarten 30 Lesson 2.1 Comparing Numbers


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Lesson 2.1 Comparing Numbers

Count the objects in the box on the left. In the box on the right, write a number that is **more than** the number of objects on the left. Draw a picture to help you.

 **Answers / Pictures will vary but may include** **5**

 **Answers / Pictures will vary but may include** **8**

 **Answers / Pictures will vary but may include** **3**

Spectrum Critical Thinking for Math Kindergarten Lesson 2.1 Comparing Numbers 31

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Lesson 2.1 Comparing Numbers

Tally Marks

1 = |

2 = ||

3 = |||

4 = ||||

5 = |||||

6 = |||||

Tally marks can help you find the **greater** number.

4 (||||) is greater than 3 (|||).

7 (|||||) is greater than 6 (|||||).

Circle the **greater** number. Draw tally marks to show your thinking.

5

||||

8

|||||

Look at the number. Write a number that is **greater**. Draw tally marks to show your thinking.

4

||||

9

|||||

Answers will vary but may include

||||

|||||

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Lesson 2.1 Comparing Numbers

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NAME _____

Lesson 2.1 Comparing Numbers

Count the stars on the left. Then, count the stars on the right. The number of stars on the right is **less than** the number of stars on the left.

★★★★★

★★

Count the objects on the left. On the right, draw a group of objects. The number of objects on the left should be **less than** the number of objects on the right.

●●●●

Drawings will vary but may include

●●●

////

Drawings will vary but may include

////

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Lesson 2.1 Comparing Numbers

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Lesson 2.1 Comparing Numbers

To determine the number that is less, draw the amount of objects given under each number

6

●●●●●●

9

●●●●●●●●●

is less than

Circle the number that is **less**. Draw pictures to show your thinking.

8

Answers will vary but may include

●●●●●●

2

Answers will vary but may include

●●

3

Answers will vary but may include

●●●

4

Answers will vary but may include

●●●●

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Lesson 2.1 Comparing Numbers

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Lesson 2.1 Comparing Numbers

Count the objects on the left. On the right, write a number that is **less than** the amount on the left. Draw a picture to help you.

●●●●●●

Answers / Pictures will vary but may include

8

●●●●

Answers / Pictures will vary but may include

2

●●●●●●

Answers / Pictures will vary but may include

5

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Lesson 2.1 Comparing Numbers

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NAME _____

Lesson 2.1 Comparing Numbers

Tally Marks

1 = |
 2 = ||
 3 = |||
 4 = ||||
 5 = |||||
 6 = |||||

Tally marks can help you find the number that is **less**.

2 (||) is greater than 4 (||||).
 5 (|||||) is greater than 8 (|||||||).

Circle the number that is **less**. Draw tally marks to show your thinking.

6

|||||

9

|||||||

10

|||||||

8

|||||||

Answers will vary but may include

Look at the number. Write a number that is **less**. Draw tally marks to show your thinking.

6

|||||

9

|||||||

Answers will vary but may include

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Lesson 2.1 Comparing Numbers

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NAME _____

Lesson 2.1 Comparing Numbers

Write a number that is **greater than** the number given. Draw pictures to show your thinking.

2

5

Answers will vary but may include

|||||

6

7

Answers will vary but may include

|||||||

Write a number that is **less** than the number given. Draw pictures to show your thinking.

7

4

Answers will vary but may include

|||||

4

2

Answers will vary but may include

||||

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Lesson 2.1 Comparing Numbers

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Lesson 2.1 Comparing Numbers

Write a number that is **greater than** the number given. Draw tally marks to show your thinking.

3

5

Answers will vary but may include

|||||

5

7

Answers will vary but may include

|||||||

Write a number that is **less** than the number given. Draw tally marks to show your thinking.

8

7

Answers will vary but may include

|||||||

9

4

Answers will vary but may include

|||||

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Lesson 2.1 Comparing Numbers


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Lesson 2.1 Comparing Numbers


Count the objects on the left. Then, count the objects on the right. The number of objects on the left is **equal to** the number of objects on the right.







Count the objects on the left. On the right, draw a number of objects that is **equal to** the number shown.











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Lesson 2.1 Comparing Numbers



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Lesson 2.1 Comparing Numbers

Count the objects on the left. On the right, write the number. Draw a number of objects that is **equal to** the number shown.

  7

  1

  9

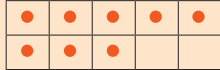
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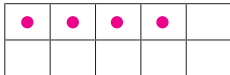
Lesson 2.1
Comparing Numbers


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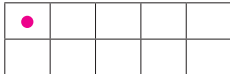
Lesson 2.2 Composing Numbers


Use the ten frame to show the number.

8 

4 

6 

1 

7 

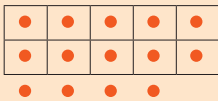
Spectrum Critical Thinking for Math
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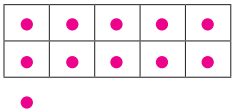
Lesson 2.2
Composing Numbers
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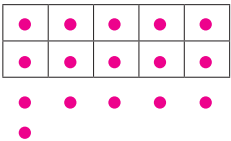
NAME _____

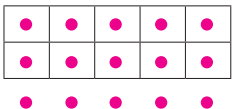
Lesson 2.2 Composing Numbers

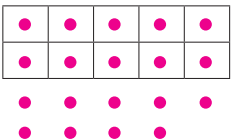
Use the ten frame to show the number.

14 

11 

16 

15 

19 

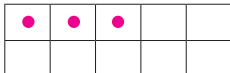
Spectrum Critical Thinking for Math
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Lesson 2.2
Composing Numbers

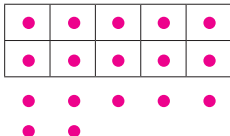
NAME _____

Lesson 2.2 Composing Numbers

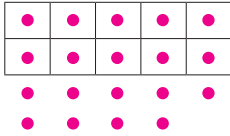
Draw dots in each ten frame to show the number. Then, write numbers to answer the questions.

3 

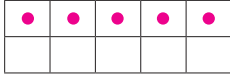
How many spaces in the ten frame are empty? 7

17 

How many dots are outside the frame? 7

19 

How many dots are inside the frame? 10

5 

How many more dots are needed to make 10? 5

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Lesson 2.2
Composing Numbers
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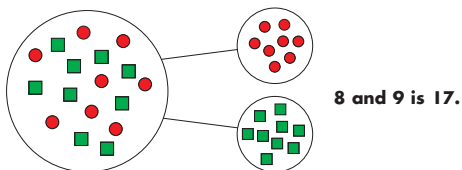
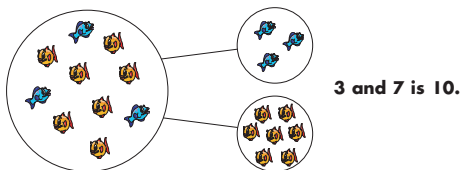
NAME _____

Lesson 2.2 Composing Numbers

To compose the number 11, count the total amount of the two smaller groups.



Draw a picture to compose the number.



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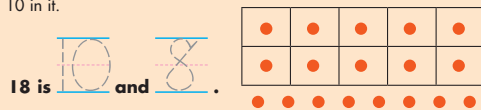
Lesson 2.2
Composing Numbers

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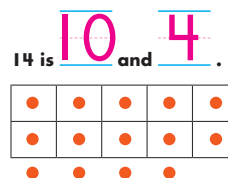
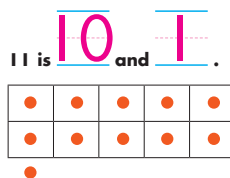
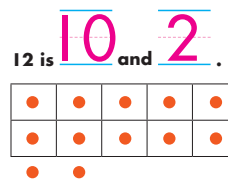
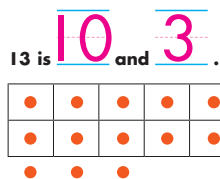
NAME _____

Lesson 2.3 Decomposing Numbers

You can use a ten frame and dots to show a number sentence with 10 in it.



Write the number sentence shown in the ten frame.



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Lesson 2.3
Decomposing Numbers
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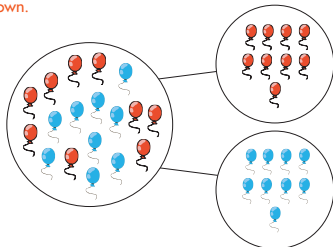
NAME _____

Lesson 2.3 Decomposing Numbers

To decompose the number 13, sort the objects shown into smaller groups.



Draw a picture to decompose the number. Then, write the number sentence shown.



18 is 9 and 9.

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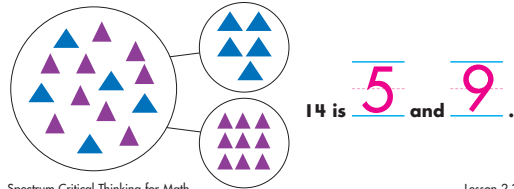
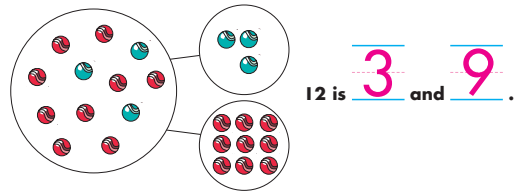
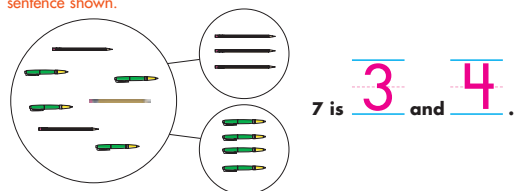
Lesson 2.3
Decomposing Numbers

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Lesson 2.3 Decomposing Numbers

Draw a picture to decompose the number. Then, write the number sentence shown.



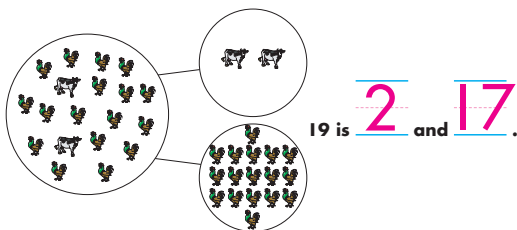
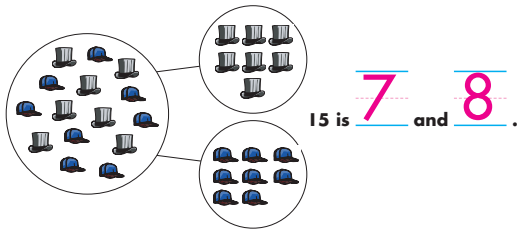
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Lesson 2.3
Decomposing Numbers
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Lesson 2.3 Decomposing Numbers

Draw a picture to decompose the number. Then, write the number sentence shown.



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Lesson 2.3
Decomposing Numbers

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Check What You Learned

Counting and Writing Numbers

1. Circle the **greater** number. Draw a picture to show your thinking.



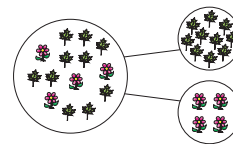
Drawings will vary but may include

2. Count the marbles on the left. On the right, draw a group of marbles that has **more**.



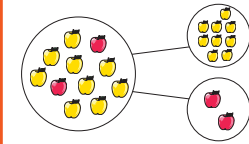
Drawings will vary but may include

3. Draw a picture to compose the number.



10 and 4 is 14.

4. Draw a picture to decompose the number. Then, write the number sentence shown.



11 is 2 and 9.

Spectrum Critical Thinking for Math
Kindergarten

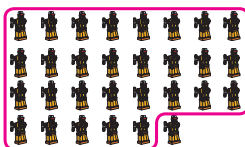
Chapter 2
Check What You Learned
49

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Mid-Test Chapters 1-2

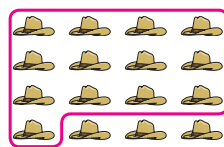
Circle the number of objects given. Then, write the number.

1. 29



29

2. 13



13

3. 4



4

4. 11



11

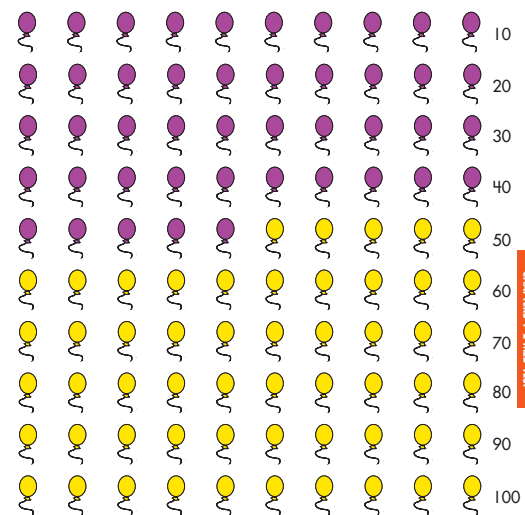
Spectrum Critical Thinking for Math
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Chapters 1-2
Mid-Test

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Mid-Test Chapters 1-2

5. Count **100** balloons by ones and by tens. Then, color **45** balloons purple. Color **55** balloons yellow.




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Kindergarten

Chapters 1-2
Mid-Test
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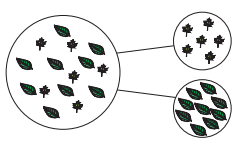
NAME _____

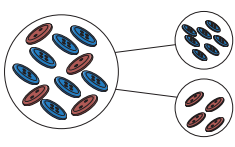
Mid-Test Chapters 1-2

6. Circle the **lower** number. Draw a picture to show your thinking.
3 **9** 

Drawings will vary but may include

7. Count the stars on the left. On the right, draw a group of stars that has **less**.

Drawings will vary but may include

8. Draw a picture to compose the number.

6 and 9 is 15.

9. Draw a picture to decompose the number. Then, write the number sentence shown.

11 is 4 and 7.

Chapters 1-2 Mid-Test

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Check What You Know


Adding and Subtracting


Draw objects to represent the numbers in each problem. Then, solve the problems. *Drawings will vary but may include*


1. $5 - 4 =$
 $\underline{1}$

2. $3 + 2 =$
 $\underline{5}$

3. $6 - 2 =$
 $\underline{4}$

4. $1 + 8 =$
 $\underline{9}$

5. $10 - 3 =$
 $\underline{7}$

6. $10 - 5 =$
 $\underline{5}$


Chapter 3
Check What You Know
53

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NAME _____

Lesson 3.1 Understanding Addition


Two kittens are joined by 1 more kitten. How many kittens are there now? To find out, count the total number of kittens.




There are 3 kittens now.

Note to parents: Ask your child to explain his or her thinking for each answer.

1. Four fish are joined by 2 more fish. Count the total number of fish. Write the number.

 $\underline{6}$

2. One snail is joined by 6 snails. Count the total number of snails. Write the number.

 $\underline{7}$

Lesson 3.1
Understanding Addition


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Lesson 3.2 Understanding Subtraction

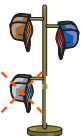
There are 3 fish in a pond. One swims away. How many fish are there now? To find out, count the number of fish that are left.




There are 2 fish left.

Note to parents: Ask your child to explain his or her thinking for each answer.

There are 3 baseball caps hanging on a hat rack. One cap is taken away. Count the number of caps that are left. Write the number.

 $\underline{2}$

There are 8 dogs at the dog park. Three dogs leave to go home with their owners. Count the number of dogs that are left. Write the number.

 $\underline{5}$

Lesson 3.2
Understanding Subtraction



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
NAME _____

Lesson 3.3 Addition



You can use objects to show the numbers in an addition problem. Then, count the total number of objects to solve.

$$\begin{array}{r} 1 \\ + 2 \\ \hline \end{array}$$
  →  = 3

Draw objects to show the numbers in each problem. Then, count to solve the problems. *Drawings will vary but may include*

 → 

$$\begin{array}{r} 7 \\ + 1 \\ \hline 8 \end{array}$$

 → 

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

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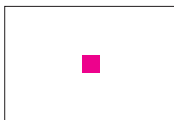
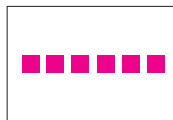
Lesson 3.3
Addition

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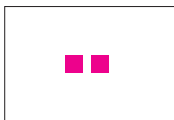
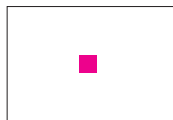
NAME _____

Lesson 3.3 Addition

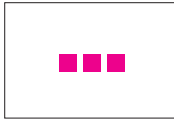
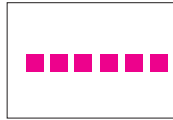
Draw objects to show the numbers in each problem. Then, count to solve the problems. *Drawings will vary but may include*

 → 

$$\begin{array}{r} 1 \\ + 6 \\ \hline 7 \end{array}$$

 → 

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

 → 

$$\begin{array}{r} 3 \\ + 6 \\ \hline 9 \end{array}$$

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Kindergarten

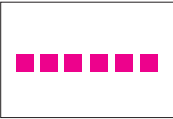
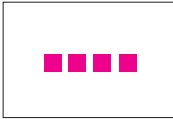
Lesson 3.3
Addition
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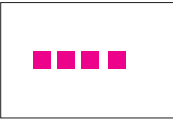
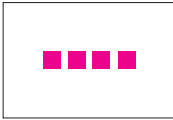
NAME _____

Lesson 3.3 Addition


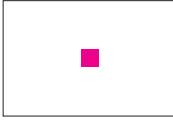
Draw objects to show the numbers in each problem. Then, count to solve the problems. *Drawings will vary but may include*

 → 

$$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$$

 → 

$$\begin{array}{r} 4 \\ + 4 \\ \hline 8 \end{array}$$

 → 

$$\begin{array}{r} 8 \\ + 1 \\ \hline 9 \end{array}$$

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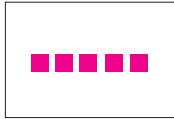
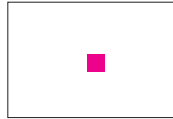
Lesson 3.3
Addition

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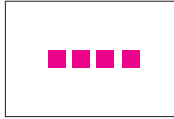
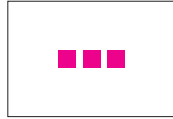
NAME _____

Lesson 3.3 Addition

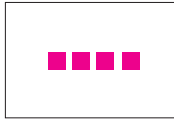
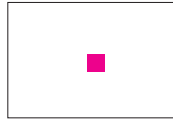
Draw objects to show the numbers in each problem. Then, count to solve the problems. *Drawings will vary but may include*

 → 

$$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$$

 → 

$$\begin{array}{r} 4 \\ + 3 \\ \hline 7 \end{array}$$

 → 

$$\begin{array}{r} 4 \\ + 1 \\ \hline 5 \end{array}$$

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Kindergarten

Lesson 3.3
Addition
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Lesson 3.4 Subtraction

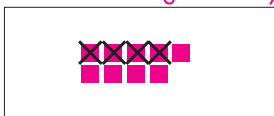
You can use objects to show the numbers in a subtraction problem. Cross out the number of objects being taken away. Then, count how many are left.

$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

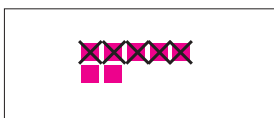

$$= 4$$

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

Drawings will vary but may include



$$9 - 4 = \underline{5}$$



$$7 - 5 = \underline{2}$$

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Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

Drawings will vary but may include



$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

Drawings will vary but may include



$$\begin{array}{r} 8 \\ - 7 \\ \hline 1 \end{array}$$

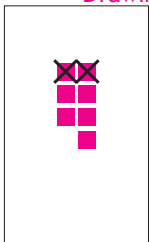
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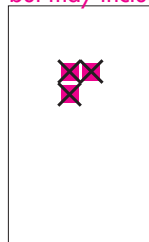
Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

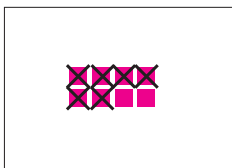
Drawings will vary but may include



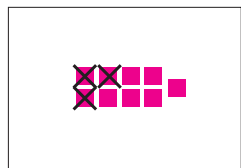
$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$



$$\begin{array}{r} 3 \\ - 3 \\ \hline 0 \end{array}$$



$$8 - 6 = \underline{2}$$



$$9 - 3 = \underline{6}$$

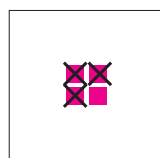
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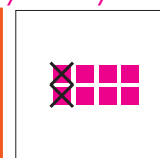
Lesson 3.4 Subtraction

Draw objects to show the first number in each problem. Then, cross out the number of objects that are subtracted. Solve the problems.

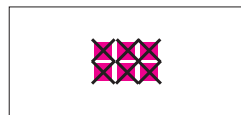
Drawings will vary but may include



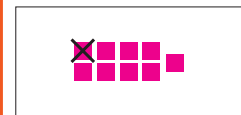
$$\begin{array}{r} 4 \\ - 3 \\ \hline 1 \end{array}$$



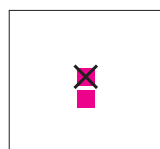
$$\begin{array}{r} 8 \\ - 2 \\ \hline 6 \end{array}$$



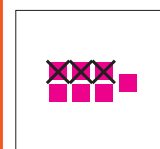
$$6 - 6 = \underline{0}$$



$$9 - 1 = \underline{8}$$



$$\begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$$



$$\begin{array}{r} 7 \\ - 3 \\ \hline 4 \end{array}$$

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Lesson 3.5 Addition in the Real World

Daniel picked 5 apples. Sam picked 3 apples. Draw a picture to show how many apples they picked altogether.

First, draw how many apples Daniel picked. Then, draw how many apples Sam picked. Count both Daniel and Sam's apples to determine how many they picked altogether.



Note to parents: Ask your child to explain his or her thinking for each answer.

Kady blew up 5 balloons for the harvest party. Lisa blew up 3 balloons. Draw a picture to show how many balloons the girls blew up together.



The girls blew up 8 balloons together.

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Lesson 3.5
Addition in the Real World

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Lesson 3.6 Subtraction in the Real World

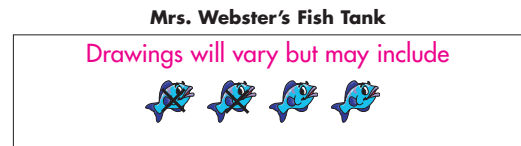
Ramsey has 6 cats at his house. Then, 3 cats run away. How many cats does Ramsey have now? Draw a picture to help you solve the problem.

First, draw how many cats Ramsey has. Then, cross out the number of cats that run away. Count the cats that are not crossed out to find your answer.



Note to parents: Ask your child to explain his or her thinking for each answer.

There are 4 fish in the fish tank in Mrs. Webster's room. Then, 2 fish are taken out of the tank. How many fish are left in the tank? Draw a picture to help you solve the problem.



There are 2 fish left in the tank.

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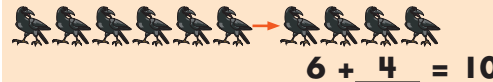
Lesson 3.6
Subtraction in the Real World
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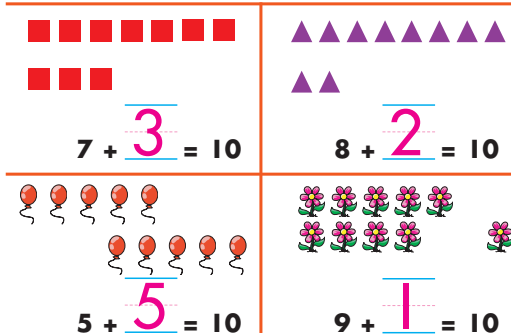
Lesson 3.7 Making 10

To make 10, first count how many birds there are. Then, draw enough birds to make a group of 10. Count the number of birds you drew and write it on the line.



Draw objects in each box to make each group 10. Count the number of objects drawn and write it on the line.

Note to parents: Ask your child to explain how he or she came up with each answer.



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Lesson 3.7
Making 10

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Lesson 3.8 Making 10 in the Real World

Brooke needs to bring 10 pencils to her first day of school. She has 7 pencils. Draw more pencils to make a set of 10.

First, draw the number of pencils Brooke has. Then, as you draw more pencils, count on from 7 until you get to 10. Count the number of pencils you drew to make 10.



Note to parents: Ask your child to explain his or her thinking for each answer.

William wants to give his mom 10 flowers for Mother's Day. He has 5 flowers. Draw more flowers to make a set of 10.



William needs 5 more flowers to make a set of 10.

Reba needs 10 pieces of fruit to fill up her fruit basket. She has 2 pieces of fruit. Draw more fruit to show how Reba can fill her fruit basket.



Reba needs 8 more pieces of fruit to make a set of 10.

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Lesson 3.8
Making 10 in the Real World
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Lesson 3.9 Subtracting from 10

To subtract from 10, first draw 10 objects. Then, cross out the number of objects you want to subtract. Count the number of objects left and write it on the line.







$$\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$$

Draw 10 objects for each problem. Cross out the number of objects to be subtracted. Count the number of objects left and write it on the line.

Note to parents: Ask your child to explain how he or she came up with each answer.

Drawings will vary but may include

 $\begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array}$	 $\begin{array}{r} 10 \\ - 2 \\ \hline 8 \end{array}$
 $\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$	 $\begin{array}{r} 10 \\ - 1 \\ \hline 9 \end{array}$

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Lesson 3.9 Subtracting from 10


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Lesson 3.10 Subtracting from 10 in the Real World

Jan needs 10 spoons to set the table. If she has only 8 spoons, how many more spoons does she need? Draw a picture to help you solve the problem.


First, draw 10 spoons. Then, cross out the number of spoons Jan already has. Count the spoons that are not crossed out to determine how many more spoons Jan needs.



$$10 - 8 = 2$$

Amanda needs to bring in 10 cans of food for her class food drive. If she has only 9 cans of food, how many more cans does she need? Draw a picture to help you solve the problem.


Drawings will vary but may include



Amanda needs 1 can(s) of food.

Quan needs 10 red beads to make his necklace. He has 4 red beads. How many more red beads does Quan need? Draw a picture to help you solve the problem.

Drawings will vary but may include



Quan needs 6 red bead(s).

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Lesson 3.10 Subtraction from 10 in the Real World




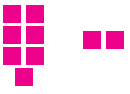


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Check What You Learned

Adding and Subtracting

Draw objects to represent the numbers in each problem. Then, solve the problems. **Drawings will vary but may include**

<p>1. $3 + 3 =$</p>  $\begin{array}{r} 3 + 3 \\ \hline 6 \end{array}$	<p>2. $7 - 4 =$</p>  $\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$
<p>3. $3 - 2 =$</p>  $\begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array}$	<p>4. $7 + 2 =$</p>  $\begin{array}{r} 7 + 2 \\ \hline 9 \end{array}$
<p>5. $10 - 8 =$</p>  $\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$	<p>6. $10 - 0 =$</p>  $\begin{array}{r} 10 \\ - 0 \\ \hline 10 \end{array}$

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Chapter 3 Check What You Learned


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Check What You Know


Measurement and Data

1. Draw an object that is **shorter** than a rubber band.




Drawings will vary. Check to make sure that the object drawn would be shorter than the rubber band.

2. Draw an object that is **taller** than a giraffe.





Drawings will vary. Check to make sure that the object drawn would be taller than the giraffe.

3. Draw an object that is **heavier** than a balloon.



Drawings will vary. Check to make sure that the object drawn would be heavier than a balloon.

4. Sort this group of objects into 2 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.

9 6

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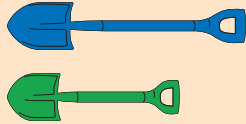
Chapter 4 Check What You Know

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Lesson 4.1 Longer and Shorter

The blue shovel is **longer** than the green shovel. The green shovel is **shorter** than the blue shovel.

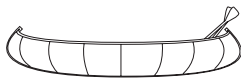


Draw a fish that is **longer** than the fish shown.



Answers on this page will vary. Check to make sure objects drawn are longer/shorter than the ones given.

Draw a canoe that is **shorter** than the canoe shown.



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Lesson 4.1
Longer and Shorter

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Lesson 4.1 Longer and Shorter

Draw an object that is **longer** than the key.



Draw an object that is **shorter** than the seashell.



Answers on this page will vary. Check to make sure objects drawn are longer/shorter than the ones given.

Draw an object that is **shorter** than the pink ribbon.



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Kindergarten

Lesson 4.1
Longer and Shorter
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Lesson 4.2 Taller and Shorter

The dog is **taller** than the mouse. The mouse is **shorter** than the dog.



Draw an animal that is **taller** than the goat.



Answers on this page will vary. Check to make sure animals drawn are taller/shorter than the ones given.

Draw an animal that is **shorter** than the cow.



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Lesson 4.2
Taller and Shorter

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Lesson 4.2 Taller and Shorter

Draw an object that is **shorter** than the swing set.



Draw an object that is **taller** than the wading pool.



Answers on this page will vary. Check to make sure objects drawn are taller/shorter than the ones given.

Draw an object that is **shorter** than the basketball hoop.



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Kindergarten

Lesson 4.2
Taller and Shorter
75

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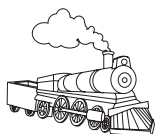
NAME _____

Lesson 4.3 Heavier and Lighter

The hippopotamus is **heavier** than the cat. The cat is **lighter** than the hippopotamus.



Draw something that is **lighter** than a train.



Answers on this page will vary. Check to make sure objects drawn are heavier/lighter than the ones given.

Draw something that is **heavier** than a snail.



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Lesson 4.3 Heavier and Lighter

Draw an object that is **heavier** than an envelope.

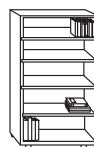


Draw an object that is **lighter** than a school bus.



Answers on this page will vary. Check to make sure objects drawn are heavier/lighter than the ones given.

Draw an object that is **heavier** than a bookcase.



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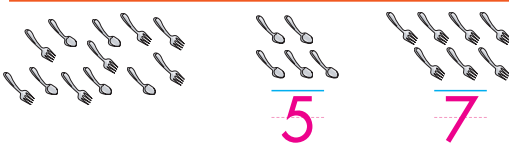
Lesson 4.4 Sorting and Classifying Objects

To sort a group of objects, put different objects in separate groups. Count to find out how many objects are in each group.



Sort each group of objects into separate groups. Count the number in each group and write it on the line.

Note to parents: Ask your child to explain his or her thinking for each answer.



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Lesson 4.4 Sorting and Classifying Objects

Sort each group of objects into separate groups. Count the number in each group and write it on the line.

Note to parents: Ask your child to explain his or her thinking for each answer.



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Lesson 4.4 Sorting and Classifying Objects

Sort this group of objects into 3 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.

Hats

16

Pairs of shoes

13

Fruit

3

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Kindergarten
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Lesson 4.4
Sorting and Classifying Objects

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NAME _____

Check What You Learned

Measurement and Data

1. Draw an object that is **longer** than the spoon.

2. Draw an object that is **lighter** than a house.

1.-2. Answers will vary. Check to be sure objects drawn are longer/lighter than the ones given.

3. Sort this group of objects into 2 smaller groups of objects. Draw a picture to show your thinking. Count how many of each object is in each group and write it on the lines below.

Groups may vary.

7

9

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Kindergarten

Chapter 4
Check What You Learned
81

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NAME _____

Check What You Know

Geometry

1. Draw 2 different **plane** shapes.

Answers should include 2 of the following:

2. Draw 2 different **solid** shapes.

Answers should include 2 of the following:

3. Draw 2 more real-world objects that are shaped like a circle.

Answers will vary but may include

4. What shapes can you put together to make the following shape?

Answers will vary but may include

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Kindergarten
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Chapter 5
Sorting and Classifying Objects

Page 83

NAME _____

Check What You Know

Geometry

5. **Above** the orange fish, color 1 fish blue. **Below** the orange fish, color 1 fish red. Draw 1 fish **next** to the orange fish.

Fish drawing may be either left or right of orange fish.


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Kindergarten

Chapter 5
Check What You Know
83


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NAME _____


Lesson 5.1 Plane Shapes



square





rectangle






triangle

Draw a picture below using at least 2 squares, 1 rectangle, and 2 triangles.

Drawings will vary but should include all of the following shapes:




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Kindergarten
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Lesson 5.1
Plane Shapes


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Lesson 5.1 Plane Shapes



square







circle






hexagon

Draw a picture below using at least 4 circles, 2 squares, and 1 hexagon.

Drawings will vary but should include all of the following shapes:




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Lesson 5.1
Plane Shapes


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Lesson 5.2 Solid Shapes






sphere





cone

Draw a picture below using at least 3 spheres and 2 cones.

Drawings will vary but should include all of the following shapes:


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Lesson 5.2
Solid Shapes


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NAME _____

Lesson 5.2 Solid Shapes





cylinder





cube

Draw a picture below using at least 2 cylinders and 2 cubes.

Drawings will vary but should include all of the following shapes:

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Lesson 5.2
Solid Shapes

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Lesson 5.3 Plane and Solid Shapes

These are plane shapes.



These are solid shapes.



Draw a picture using at least 2 plane shapes and 2 solid shapes.

Drawings will vary. They should include at least 2 plane shapes shown above, and at least 2 solid shapes shown above.

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Lesson 5.3 Plane and Solid Shapes

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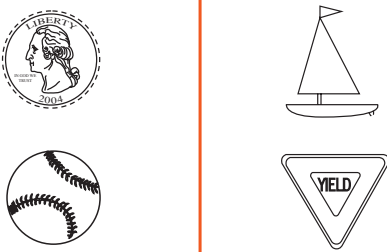
NAME _____

Lesson 5.4 Sorting Shapes in the Real World

Go on a shape hunt. Draw all the circle-shaped objects and triangle-shaped objects in the room you are in. Draw those objects in the correct columns below.



Answers will vary, but may include:



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Lesson 5.4 Sorting Shapes in the Real World

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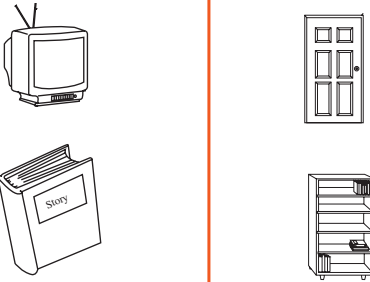
NAME _____

Lesson 5.5 Drawing Shapes in the Real World

Think of objects that are shaped like squares and rectangles. Draw those objects below.



Answers will vary, but may include:



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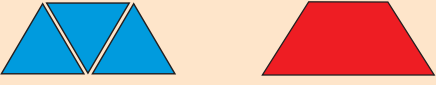
Lesson 5.5 Drawing Shapes in the Real World

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Lesson 5.6 Combining Shapes

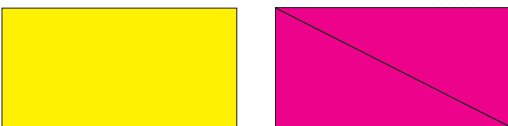
You can combine three triangles to make a trapezoid.



What shapes can you put together to make the following shapes? You can draw on top of the shapes or use pattern blocks to help you.



Answers on this page will vary, but may include:



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Lesson 5.6 Combining Shapes

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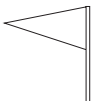
NAME _____

Lesson 5.7 Finding Shapes in the Real World

Go on a shape hunt. Draw all the objects in the room that are in the shape of a circle, rectangle, square, or triangle. Be sure you are able to tell what shape the object is!

Drawings will vary and should be checked for accuracy.

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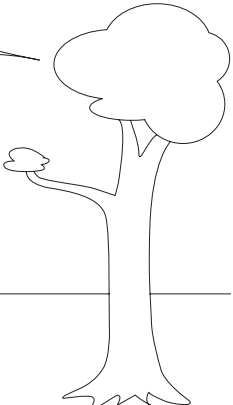
Lesson 5.7 Finding Shapes in the Real World

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Lesson 5.8 Above, Below, and Next To

Draw 1 animal **above** the dog.
 Draw 1 animal **below** the dog.
 Draw 1 object **below** the dog.
 Draw 2 objects that are **next** to each other.

Drawings will vary and should be checked for accuracy.



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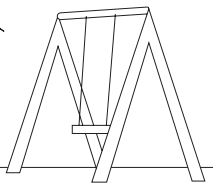
Lesson 5.8 Above, Below, and Next To

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NAME _____

Lesson 5.8 Above, Below, and Next To

Draw 2 animals **above** the swing set.
 Draw 1 animal that is **below** the sun.
 Draw 1 object that is **below** the sun.
 Draw 2 objects that are **next** to each other.

Drawings will vary and should be checked for accuracy.

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Lesson 5.8 Above, Below, and Next To





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



NAME _____





Check What You Learned



Geometry

- Draw 3 different **plane** shapes.
 Answers should include 3 of the following:





- Draw 3 different **solid** shapes.
 Answers should include 3 of the following:





- Draw 2 more real-world objects that are shaped like a **triangle**.
 Answers will vary but may include:





- What shapes can you put together to make the following shape?

 Answers will vary but may include:

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Chapter 5 Check What You Learned

CHAPTER 5 POSTTEST

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Check What You Learned

Geometry

Follow the directions.

- Draw 1 animal **next** to the tree.
- Draw 1 flower **below** the tree.
- Draw 2 birds **above** the tree.



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Chapter 5
Check What You Learned

CHAPTER 3 POSTTEST

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Final Test Chapters 1–5

Draw objects to make the number given. Then, write the number.

1. **7** 7

2. **15** 15

3. **9** 9

4. **12** 12

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Chapters 1–5
Final Test
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CHAPTERS 1–5 FINAL TEST

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Final Test Chapters 1–5

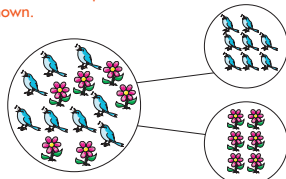
5. Circle the greater number. Draw a picture to show your thinking.

8 **3** Drawings will vary but may include

6. Count the hexagons on the left. On the right, draw a group of hexagons that has **less than** the group on the left.

Drawings will vary but may include

7. Draw a picture to decompose the number. Then, write the number sentence shown.



14 is 6 and 8.

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Chapters 1–5
Final Test

CHAPTERS 1–5 FINAL TEST

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Final Test Chapters 1–5

Draw objects to represent the numbers in each problem. Then, solve the problems. Drawings will vary but may include

8. $7 - 3 =$ 4

9. $\begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$ 9

10. $\begin{array}{r} 8 \\ + 1 \\ \hline \end{array}$ 9

11. $10 - 2 =$ 8

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Kindergarten

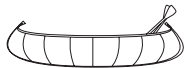
Chapters 1–5
Final Test
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CHAPTERS 1–5 FINAL TEST

NAME _____

Final Test Chapters 1–5

12. Draw an object that is longer than a canoe.



Drawings will vary and should be checked for accuracy.

13. Draw an object that is heavier than a bookshelf.



Drawings will vary and should be checked for accuracy.

14. Look at the pictures in the two rows. In each row, circle the picture that goes together with the first picture.



NAME _____

Final Test Chapters 1–5

15. Draw a picture that has these items:

- 2 different **plane** shapes **next to** each other
- 1 **solid** shape **below** the plane shapes
- 1 **solid** shape **above** the plane shapes
- 1 **real object** shaped like a **rectangle**
- 1 **real object** shaped like a **circle**

Drawings will vary and should be checked for accuracy.

NAME _____

Notes

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Notes

Stop the summer slide. Start Summer Bridge Activities®.

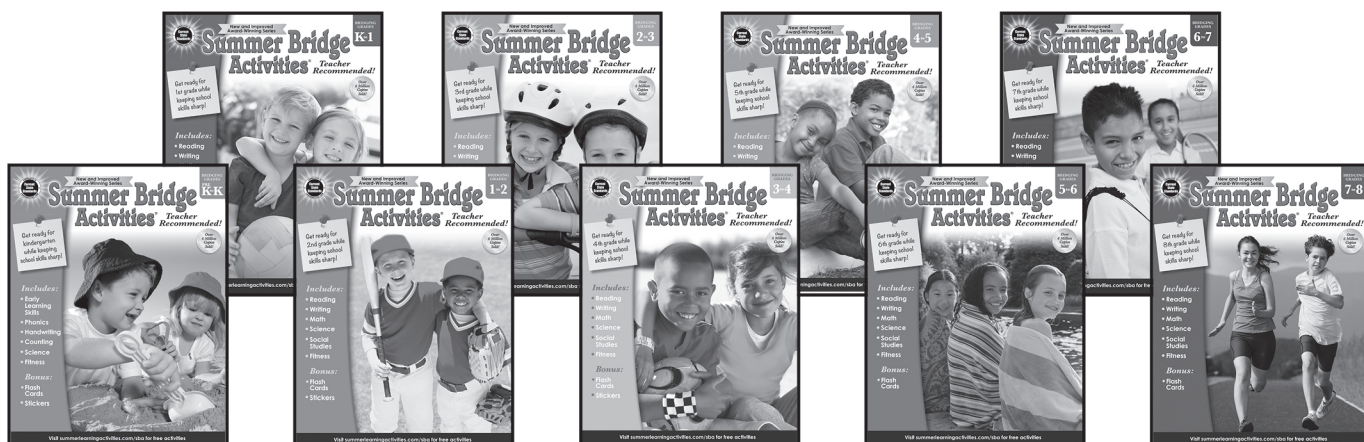
You've probably heard of "summer learning loss," or the "summer slide." Studies have shown that children can *lose up to 2.5 months of learning* over the summer. But did you know that summer learning loss could have a cumulative effect with a long-term impact on children's skills and success?

Summer Bridge Activities® are an easy, effective, and fun way to keep your child's mind sharp all summer long.

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Critical Thinking for Math

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