

# Understanding Addition

## Review What You Know

- Kira has 5 basketballs. Draw a picture of her basketballs.

- Write the number of balloons.



\_\_\_\_\_

- Write the number of animals in each group.



\_\_\_\_\_



\_\_\_\_\_



## Home-School Connection

Dear Family,

Today my class started Topic 3, **Understanding Addition**. I will learn parts of numbers through 9 and learn how to write an addition sentence. Here are some of the new math words I will be learning and some things we can do to help me with my math.

Love,

### Book to Read

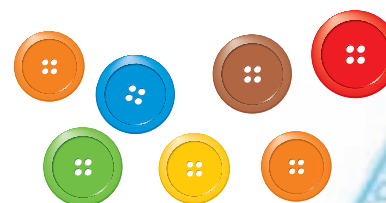
Reading math stories reinforces concepts. Look for this title in your local library:

**Addition Annie**  
by David Gisler  
(Children's Press, 2002)



### Home Activity

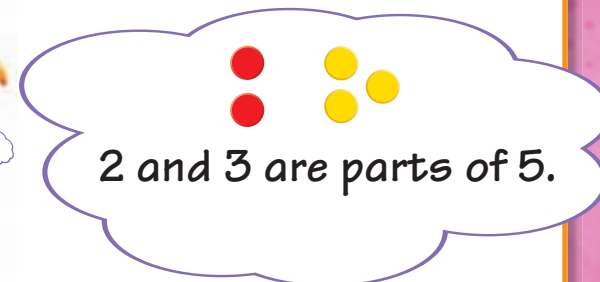
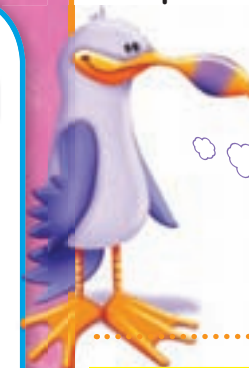
Go on a counting hunt with your child. Find 7 small items such as leaves, buttons, or paper clips. Fold a sheet of paper in half. Have your child write "7" on the paper. Then have your child glue or tape one part of the 7 objects on one half and the other part of the 7 on the other half.



## My New Math Words

### part

a piece of a whole

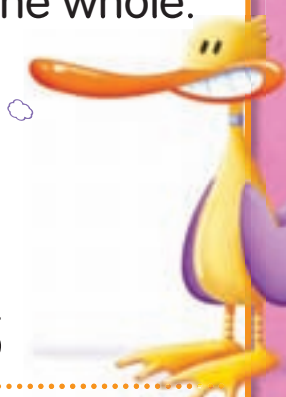


### whole

You add parts to find the whole.



$$2 + 3 = 5$$



### addend

the numbers you add together to find the whole



2 and 3 are addends.

$$2 + 3 = 5$$



Name \_\_\_\_\_

# Making 6 and 7



1.



\_\_\_\_\_ inside      \_\_\_\_\_ outside

2.



\_\_\_\_\_ inside      \_\_\_\_\_ outside

3.



\_\_\_\_\_ inside      \_\_\_\_\_ outside

4.



\_\_\_\_\_ inside      \_\_\_\_\_ outside



**Home Connection** Your child found two parts that made the numbers 6 and 7 as readiness for finding sums of 6 and 7.

**Home Activity** Use pennies or buttons to help your child show different parts of 6 and 7.

**NS 1.3** Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as  $4 + 4$ ,  $5 + 3$ ,  $2 + 2 + 2 + 2$ ,  $10 - 2$ ,  $11 - 3$ ).

There are 7 crabs **in all**.



Some of the crabs are **inside** the cave.



Some of the crabs are **outside** the cave.



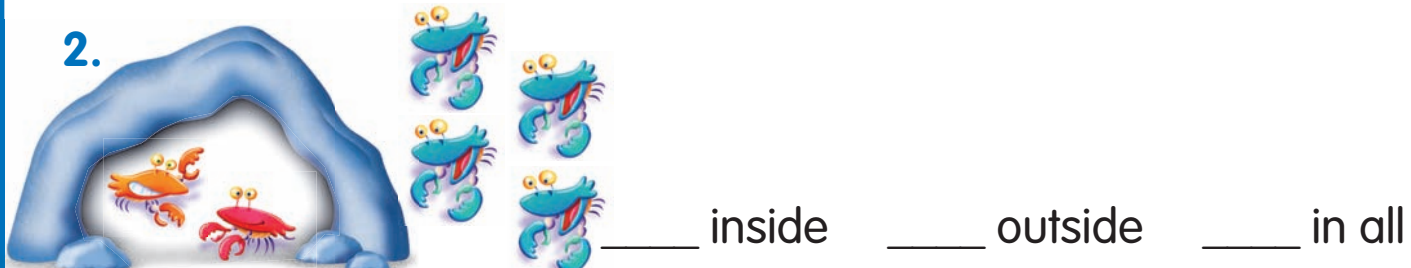
### Guided Practice

Write the number inside and outside.  
Then write the number in all.

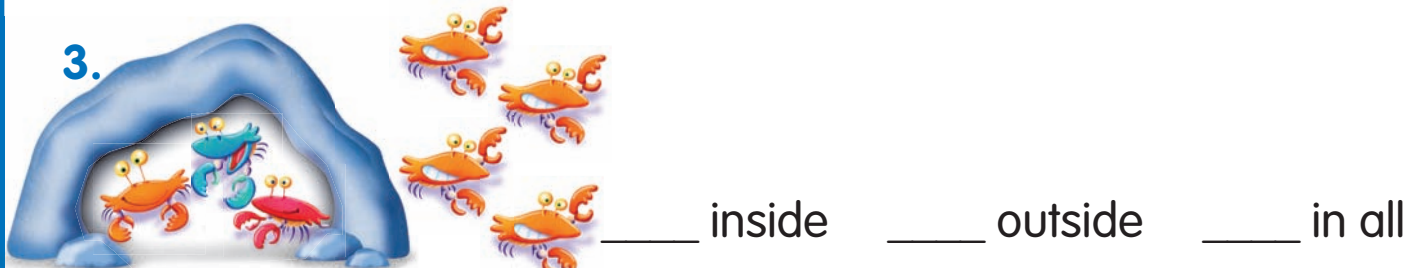
1.



2.



3.



**Do you understand?** What is another way to show 7 using tiles?

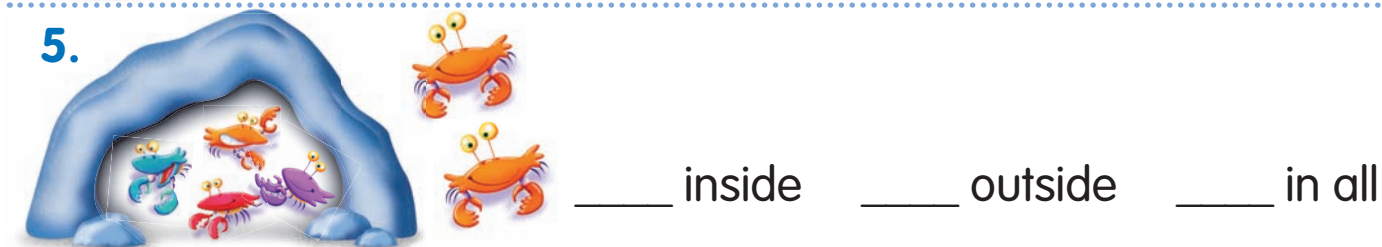
### Independent Practice

Write the number inside and outside.  
Then write the number in all.

4.



5.

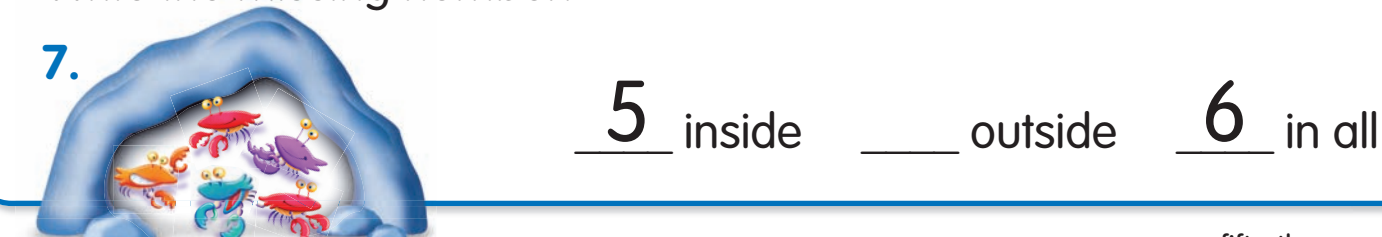


6.



**Algebra** Draw the missing part on the outside.  
Write the missing number.

7.



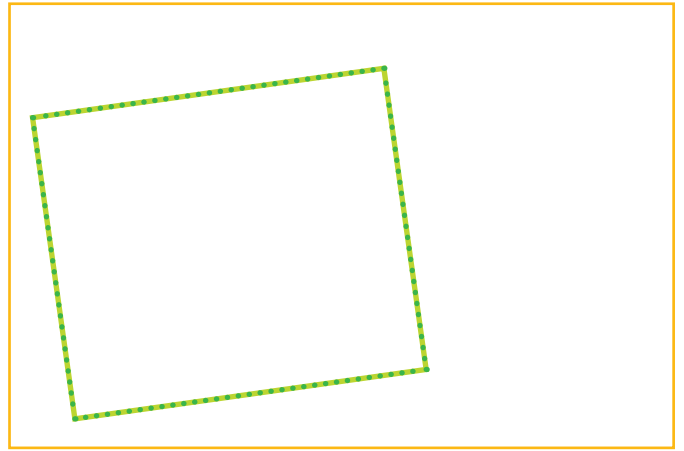
**Word Bank**  
in all      inside  
outside

## Problem Solving

Solve the problems below.

8. Bill put 3 toy trucks inside the box. He put 4 toy trucks outside the box. How many trucks are there in all? Draw a picture to solve.

\_\_\_\_\_ trucks



9. Ana hides 5 blocks under the table. She hides 1 block under the chair.

How many blocks does Ana hide in all?

4



5




6



7



10.  **Journal** Write a sentence about 6 toy cars. Draw a picture to match. Put some inside. Put some outside. Write numbers to tell about the story.

\_\_\_\_\_ inside

\_\_\_\_\_ outside

\_\_\_\_\_ in all

Name \_\_\_\_\_

# Making 8



1.

\_\_\_\_\_  and \_\_\_\_\_ 

2.

\_\_\_\_\_  and \_\_\_\_\_ 

3.

\_\_\_\_\_  and \_\_\_\_\_ 

4.

\_\_\_\_\_  and \_\_\_\_\_ 

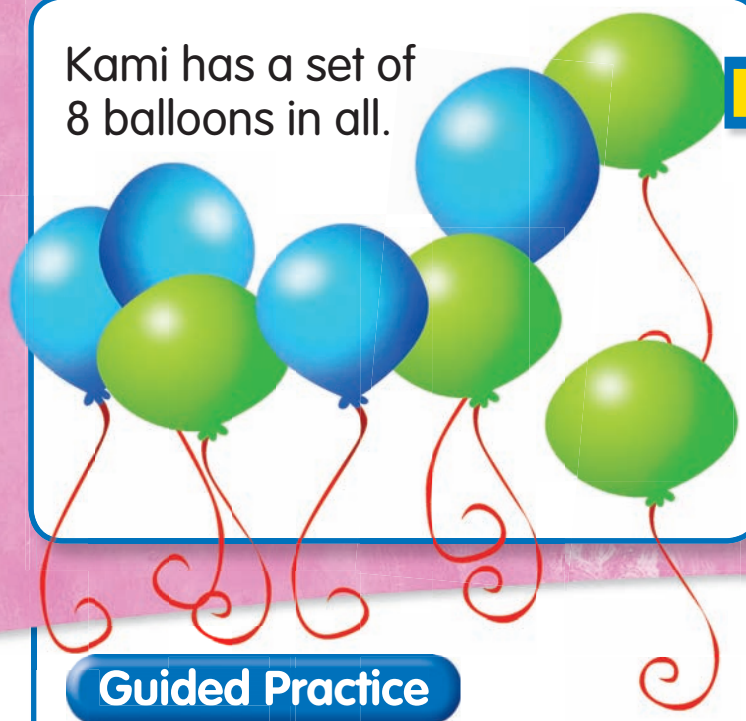


**Home Connection** Your child found two parts that made 8 in all as readiness for finding sums of 8.

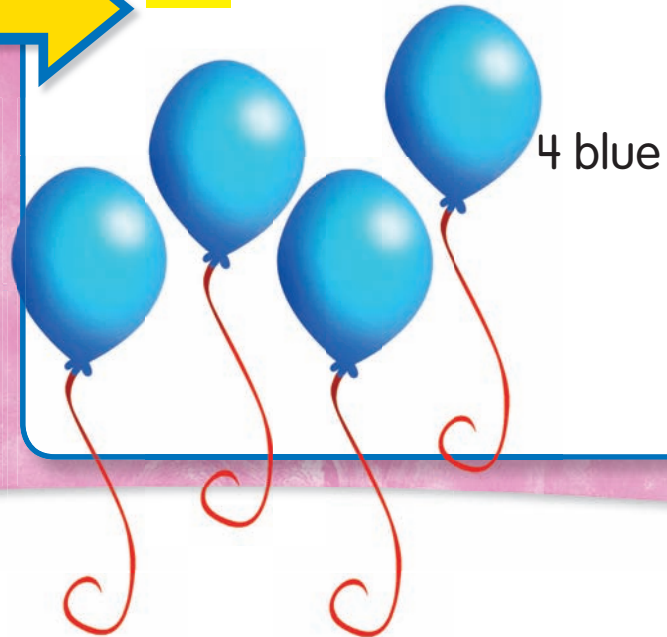
**Home Activity** Have your child count groups of 8 household items—for example, 5 apples and 3 oranges. Ask your child to identify the parts of 8—in this example, 5 and 3.

**NS 1.3** Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as  $4 + 4$ ,  $5 + 3$ ,  $2 + 2 + 2 + 2$ ,  $10 - 2$ ,  $11 - 3$ ).

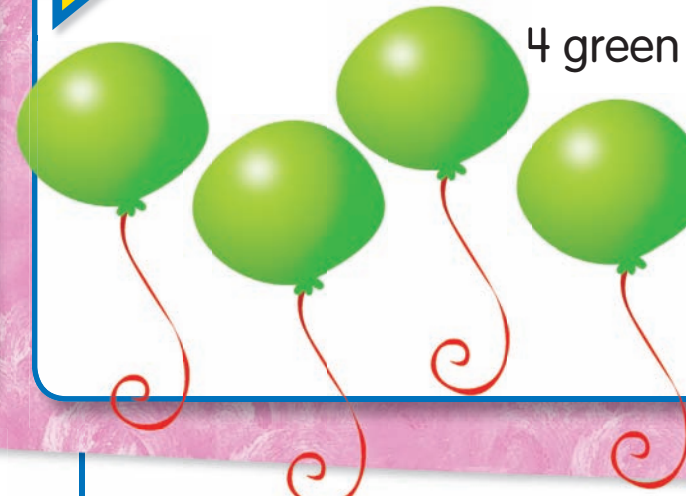
Kami has a set of 8 balloons in all.



**Part** of the set is blue.



Part of the set is green..



The **whole** set is 8 in all.

$\frac{4}{\text{part}}$  blue  $\frac{4}{\text{part}}$  green  $\frac{8}{\text{whole}}$  in all  
4 and 4 is a **double**.

**Guided Practice**

Write the numbers to show parts of 8.

1.  $\frac{7}{\text{part}}$  blue and  $\frac{1}{\text{part}}$  green

2.  $\frac{4}{\text{part}}$  blue and  $\frac{4}{\text{part}}$  green

3.  $\frac{2}{\text{part}}$  blue and  $\frac{6}{\text{part}}$  green

4.  $\frac{1}{\text{part}}$  blue and  $\frac{7}{\text{part}}$  green

**Do you understand?** Is 4 and 5 another way to show 8? Explain.

**Independent Practice**

Write the numbers to show parts of 8.

5.  $\frac{5}{\text{part}}$  blue and  $\frac{3}{\text{part}}$  green

6.  $\frac{6}{\text{part}}$  blue and  $\frac{2}{\text{part}}$  green

7.  $\frac{7}{\text{part}}$  blue and  $\frac{1}{\text{part}}$  green

8.  $\frac{3}{\text{part}}$  blue and  $\frac{5}{\text{part}}$  green

**Word Bank**  
part whole double

**Algebra** Write the missing number.

9. The whole is 8.  
One part is 4.  
The other part is \_\_\_\_.

10. The whole is 8.  
One part is 3.  
The other part is \_\_\_\_.

## Problem Solving


Solve the problems below.

11. Miko draws 5 yellow flags.  
Then he draws 3 red flags.  
How many flags does Miko draw?  
Use counters to solve.  
\_\_\_\_\_ flags

12. Jake has 2 purple fish  
and 6 orange fish.  
How many fish does Jake  
have in all?



- 5                      6                      7                      8

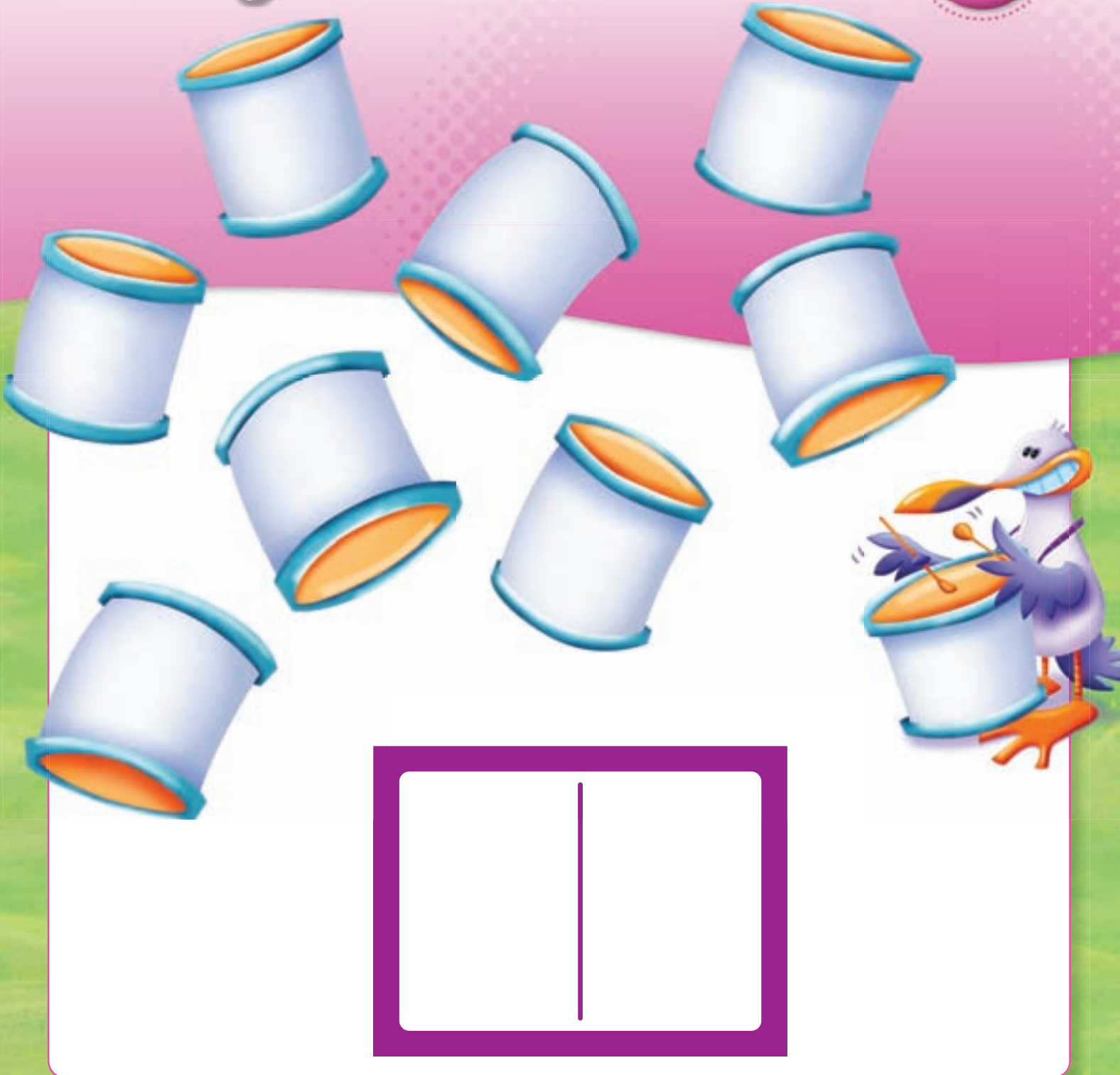
13.  **Journal** Draw a picture about 8 hats.  
Make some red and the rest blue.  
Use numbers to tell about the parts  
and the whole.

\_\_\_\_\_ part      \_\_\_\_\_ part      \_\_\_\_\_ whole



Name \_\_\_\_\_

# Making 9

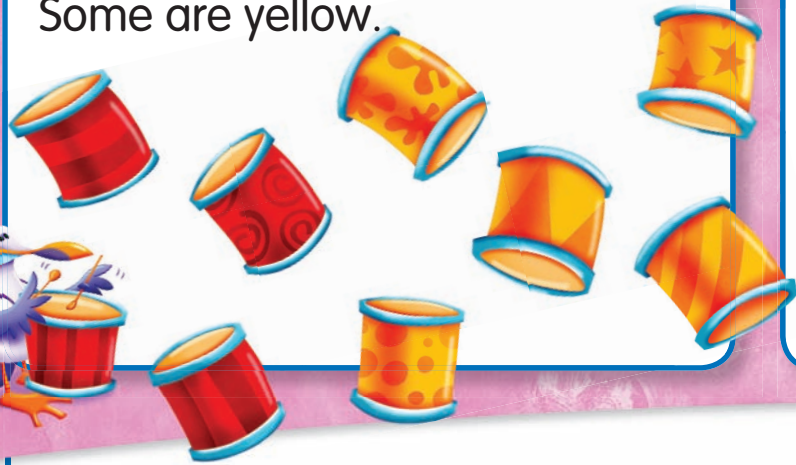


**Home Connection** Your child found two parts that made 9 as readiness for finding sums of 9.

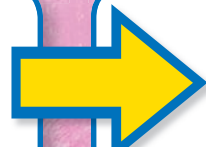
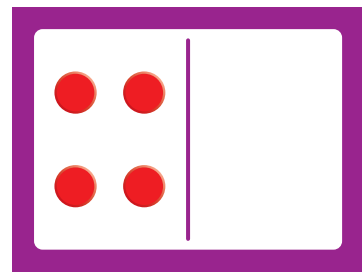
**Home Activity** Have your child cut 9 small pieces each of red and yellow paper. Place the pieces in a paper bag. Have your child take out 9 pieces without looking. Ask your child to identify the parts of 9—the number of red pieces and the number of yellow. Repeat the activity several times.

**NS 1.3** Represent equivalent forms of the same number through the use of physical models, diagrams, and number expressions (to 20) (e.g., 8 may be represented as  $4 + 4$ ,  $5 + 3$ ,  $2 + 2 + 2 + 2$ ,  $10 - 2$ ,  $11 - 3$ ).

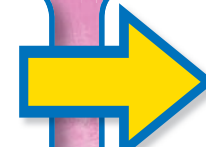
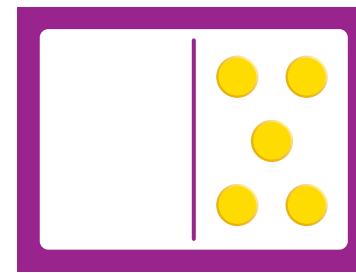
There are 9 drums.  
Some drums are red.  
Some are yellow.



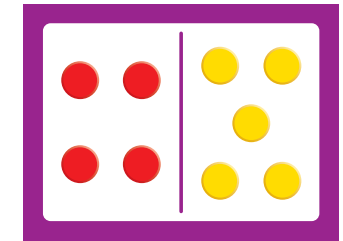
4 drums are red.



5 drums are yellow.



9 is the whole.



4 red part    5 yellow part    9 in all whole

### Guided Practice

Show parts of 9.  
Write the numbers for ● and ●.

1.   
 7 ● and 2 ●

2.   
 \_\_\_ ● and \_\_\_ ●

3.   
 \_\_\_ ● and \_\_\_ ●

4.   
 \_\_\_ ● and \_\_\_ ●

**Do you understand?** Is 6 and 3 the same as 5 and 4? Explain.

### Independent Practice

Show parts of 9.  
Write the numbers for ● and ●.

5.   
 \_\_\_ ● and \_\_\_ ●

6.   
 \_\_\_ ● and \_\_\_ ●

7.   
 \_\_\_ ● and \_\_\_ ●

8.   
 \_\_\_ ● and \_\_\_ ●

### Algebra

9. There are 9 hats in all. 3 are red.  
The rest are yellow.  
How many hats are yellow?

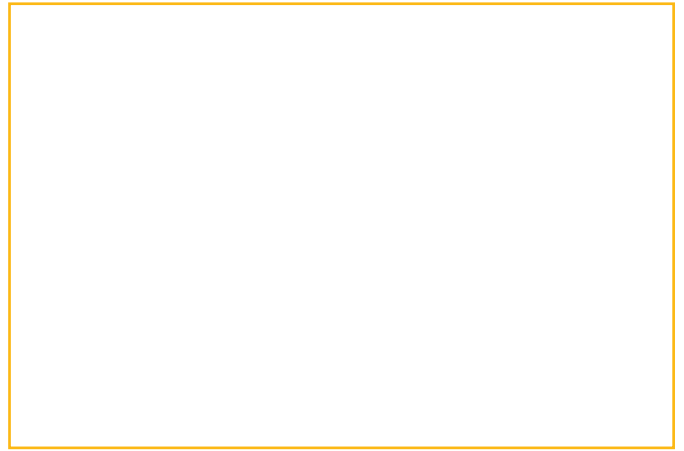
\_\_\_ yellow hats

## Problem Solving

Solve the problems below.

10. There are 3 red stars and 6 yellow stars. How many stars are there in all?  
Draw a picture to solve.  
Write how many in all.

\_\_\_\_\_ stars



11. Maria sees 2 children with drums.  
She sees 7 children with horns.




How many children does Maria see in all?

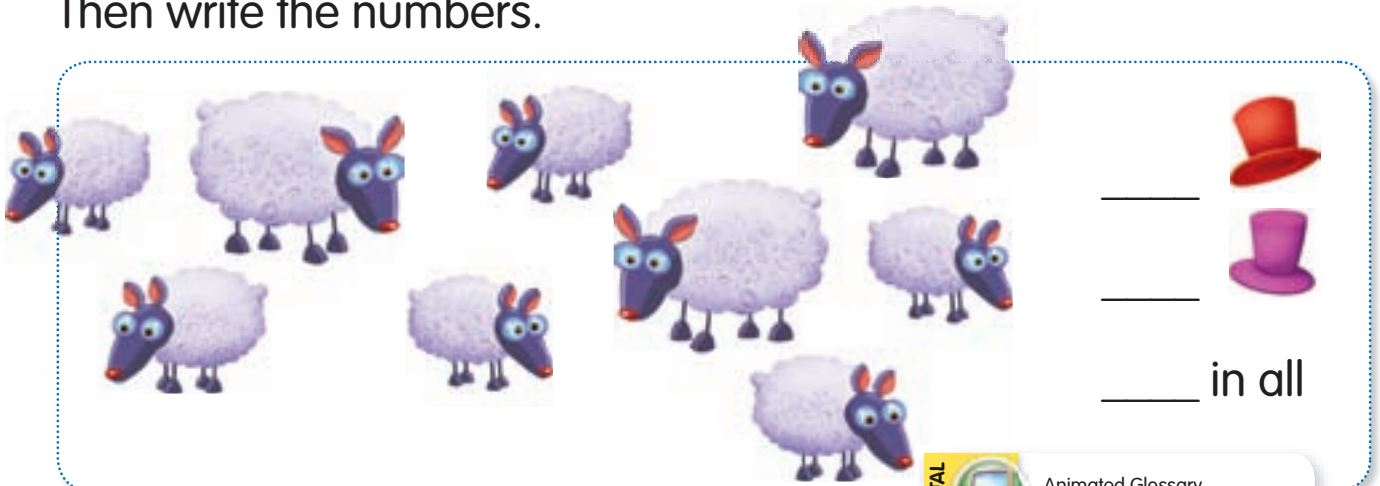
6


7


8

9

12.  **Journal** 9 sheep with hats are in the parade.  
Choose how many wear  and .  
Draw the hats on the sheep.  
Then write the numbers.



\_\_\_\_\_ 

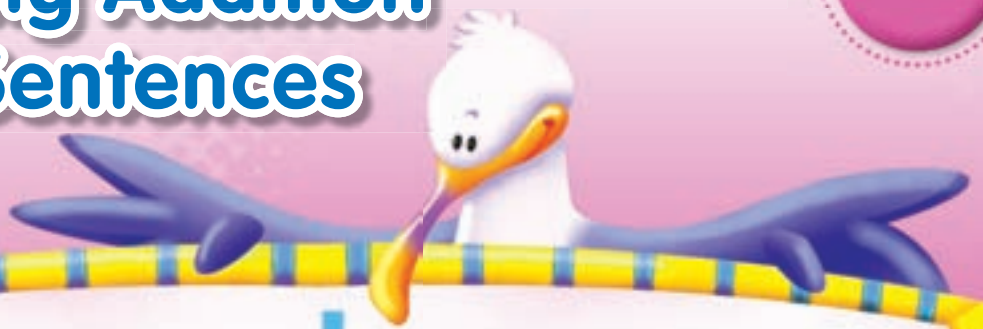
\_\_\_\_\_ 

\_\_\_\_\_ in all

Name \_\_\_\_\_



# Introducing Addition Number Sentences



1. \_\_\_\_\_ and \_\_\_\_\_ is \_\_\_\_\_ in all.

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2. \_\_\_\_\_ and \_\_\_\_\_ is \_\_\_\_\_ in all.

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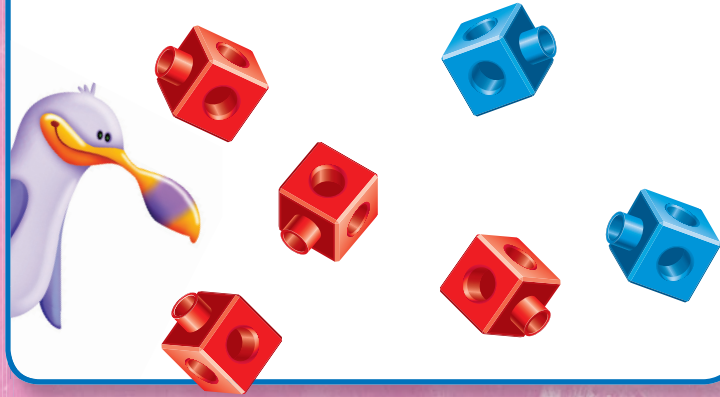
3. \_\_\_\_\_ and \_\_\_\_\_ is \_\_\_\_\_ in all.



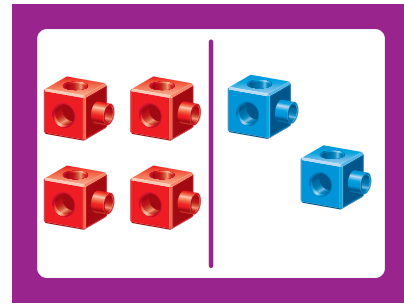
**Home Connection** Your child was introduced to addition sentences and to the plus and equals symbols.  
**Home Activity** Give your child two groups of small objects to count—for example, one group of 3 buttons and one group of 4 buttons. Together, find the total number of buttons and say the corresponding addition sentence: "3 plus 4 equals 7." Repeat the activity several times with different groupings.

**AF 1.2** Understand the meaning of symbols +, -, =. Also **NS 2.5** .

Kenny picked 4 red cubes.  
Then he picked 2 blue cubes.



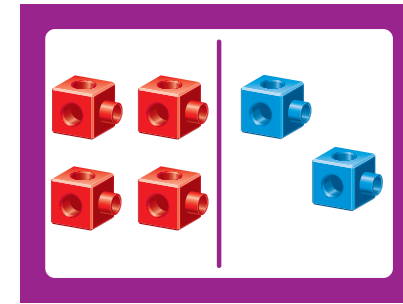
You can **add** to find the **sum**. 4 and 2 is 6 in all.



6 is the sum of 4 and 2.



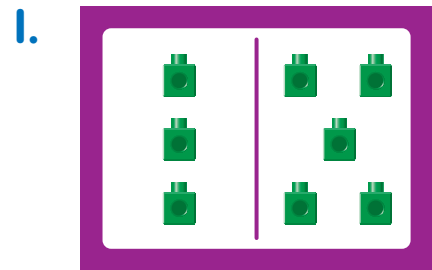
You can write an **addition sentence** to show the parts and the whole.



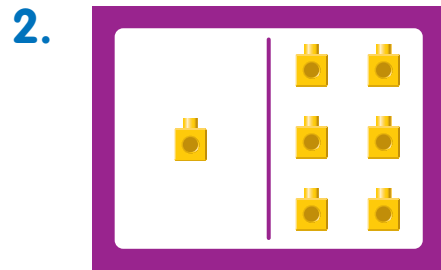
$$\begin{array}{r} 4 \\ + \\ \hline 4 \end{array} \text{ plus } \begin{array}{r} 2 \\ + \\ \hline 2 \end{array} = \begin{array}{r} 6 \\ + \\ \hline 6 \end{array}$$

### Guided Practice

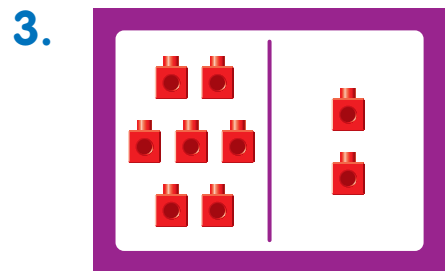
Use the picture. Write an addition sentence.



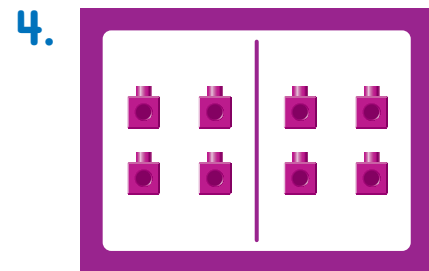
$$3 + 5 = 8$$



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



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

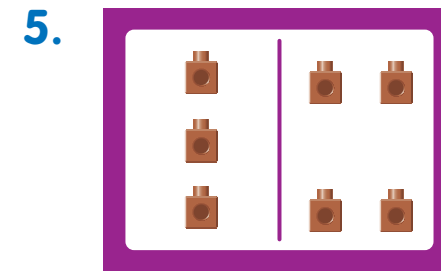


$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

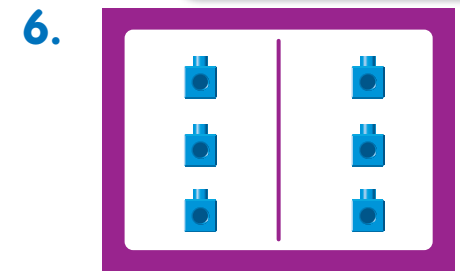
**Do you understand?** What can you do to find how many there are in all?

### Independent Practice

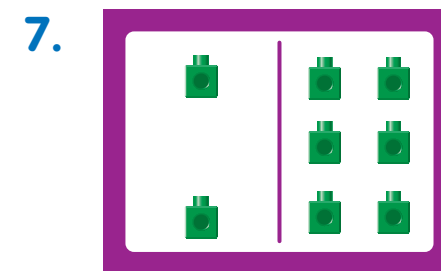
Use the picture. Write an addition sentence.



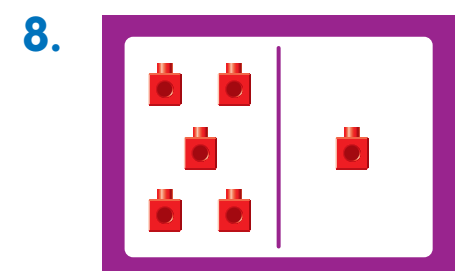
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$



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



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



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

### Word Bank

add plus (+)  
sum equals (=)  
addition sentence

**Algebra** Write the missing part.

9.  $1 + \underline{\quad} = 6$

## Problem Solving

Solve the problems below.

10. Jen found 2 orange leaves. Then she found 5 yellow leaves. How many leaves did Jen find in all? Draw a picture to show the story. Write an addition sentence.

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



11. Tim drew 4 green apples. Then he drew 3 red apples. Which addition sentence shows how many apples Tim drew?

$$4 + 2 = 6$$



$$4 + 3 = 7$$




$$4 + 4 = 8$$



$$4 + 5 = 9$$

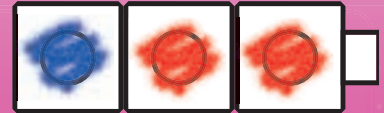


12.  **Journal** Draw a number story about red worms and brown worms. Write an addition sentence to tell how many worms there are in all.

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

Name \_\_\_\_\_

# Stories About Joining



1. \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



2. \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



**Home Connection** Your child used cubes to model addition sentences. **Home Activity** Give your child two groups of different colored items—for example, 2 blue paper clips and 6 green paper clips. Ask your child to count each group and join them together to find the total number. See if your child can say the corresponding addition sentence: “2 plus 6 equals 8.” Repeat the activity several times with different numbers.

**NS 2.5**  Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference). Also **AF 1.1, AF 1.2.**

5 train cars stop at the red light. Then 2 more train cars stop. How many train cars are there now?



You can **join** the groups to find the sum.

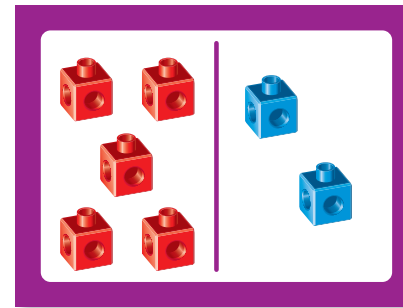
The first group is 5. The second group is 2 more.



$$5 + 2$$

5 plus 2 more

Add to find how many in all.



Write an addition sentence.

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

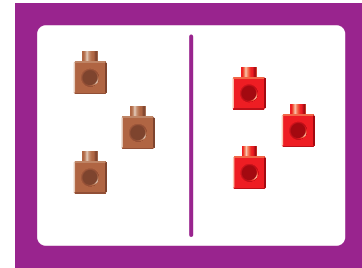
There are 7 train cars in all.

### Guided Practice

Write an addition sentence. Solve.

- There are 3 trucks in the lot. Then 3 more trucks join them.

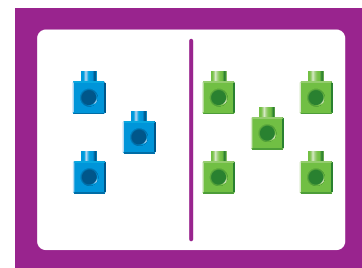
How many trucks are there in all?



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

- 3 children jump rope. Then 5 more children join them.

How many children are jumping rope now?



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

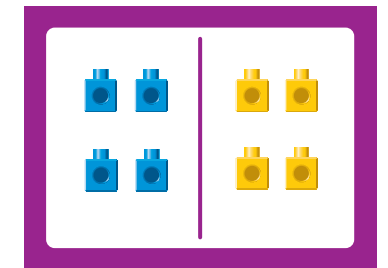
**Do you understand?** How can you tell if a story is about joining?

### Independent Practice

Write an addition sentence. Solve.

- 4 children ride bikes. Then 4 more children join them.

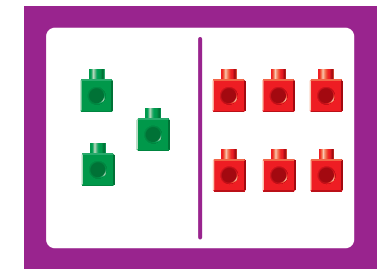
How many children are riding bikes now?



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

- 3 children wait for the bus. Then 6 more children join them.

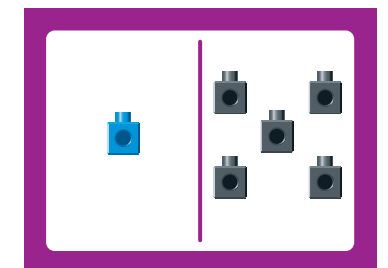
How many children wait for the bus in all?



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

- 1 bird flies in the tree. Then 5 more birds join it.

How many birds are in the tree now?



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

**Word Bank**  
join



## Problem Solving

Use  and  to solve.

6. Ben saw 3 big dogs.  
Then he saw 4 small dogs.  
How many dogs did  
Ben see in all? Write  
an addition sentence.

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

7. 8 friends play ball.  
1 more friend joins them.  
How many friends  
play ball in all? Write  
an addition sentence.

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

8. Lisa has 5 blue beads.  
Then she gets 3 more blue beads.  
Which number sentence shows how  
many blue beads Lisa has in all?

$5 + 1 = 6$



$5 + 2 = 7$




$5 + 3 = 8$



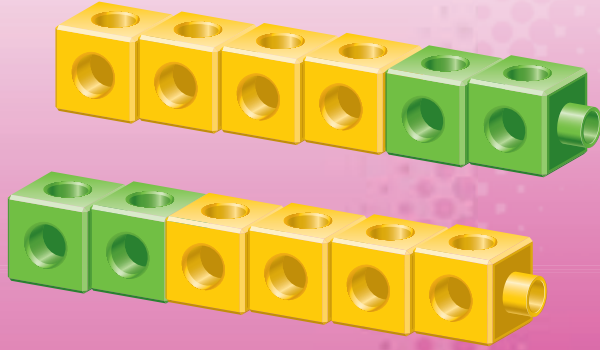
$5 + 4 = 9$



9.  **Journal** Write a joining story about  
the birds. Use pictures, numbers,  
or words.

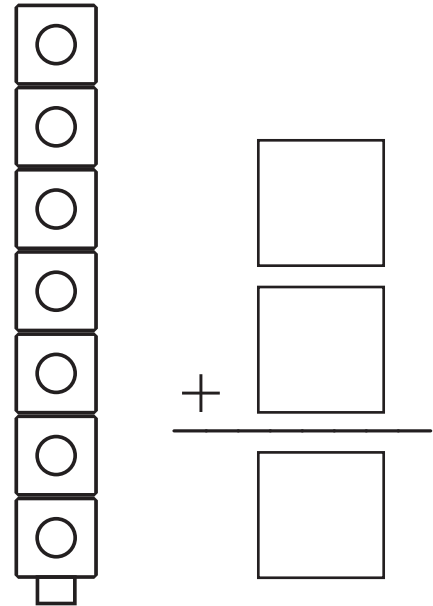
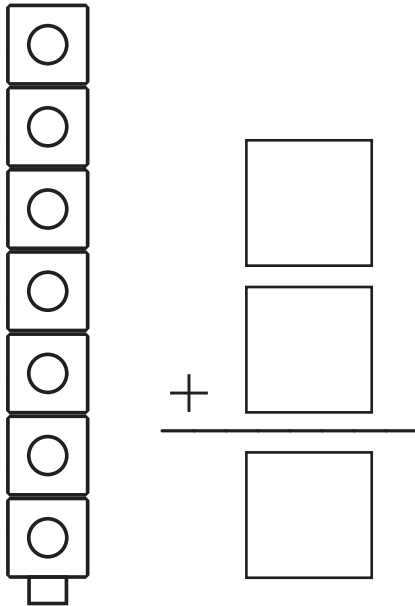


# Adding in Any Order



You can write two number sentences.

1.



2.



\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



**Home Connection** Your child learned about the order of addends. Then your child wrote each addition sentence. **Home Activity** On a small slip of paper, have your child draw some blue dots and some red dots in a row—for example, 2 blue dots and 3 red dots. Ask your child what addition sentence the dots show ( $2 + 3 = 5$ ). Then turn the paper upside down and ask what addition sentence the dots show now ( $3 + 2 = 5$ ).

**AF I.1, Grade 2** Use the commutative and associative rules to simplify mental calculations and check results. Also **NS I.3**.

You can change the **order** of the **addends**. You will see that the sum is the same.

4 and 2 is 6.

2 and 4 is 6.

You can write two number sentences.

$$4 + 2 = 6$$

$$2 + 4 = 6$$

4 plus 2 equals 6.

$$\begin{array}{r} 4 \\ + 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline 6 \end{array}$$

2 plus 4 equals 6.

### Guided Practice

Color to change the order of the addends. Then write the addition sentences.

1.  $3 + 4 = 7$   $\quad$   $\quad + \quad = \quad$

2.  $\begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$   $\begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$

**Do you understand?** How can you use cubes to show that  $3 + 5$  is the same as  $5 + 3$ ?

### Independent Practice

Write the sum. Then change the order of the addends. Write the new addition sentence.

**Word Bank**  
order  
addend

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

4.  $1 + 6 = \underline{\quad}$   
 $\underline{\quad} + \underline{\quad} = \underline{\quad}$

5.  $3 + 6 = \underline{\quad}$   
 $\underline{\quad} + \underline{\quad} = \underline{\quad}$

6.  $5 + 2 = \underline{\quad}$   
 $\underline{\quad} + \underline{\quad} = \underline{\quad}$

7.  $\begin{array}{r} 4 \\ + 5 \\ \hline \square \end{array}$   $\begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$

8.  $\begin{array}{r} 6 \\ + 2 \\ \hline \square \end{array}$   $\begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$

## Problem Solving

Solve the problems below.

9. Ed put 1 green cube in a box. Then he put 3 brown cubes in the box. How many cubes did Ed put in the box? Draw a picture. Write two different addition sentences.

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

10. Look at the two addition sentences. What is the missing addend?

$$\underline{\quad} + 2 = 9$$

$$2 + \underline{\quad} = 9$$

6

7

8

9

11.  **Journal** Draw a picture of 5 birds.

Make some ●.

Make the rest ●.

Write two number sentences to tell about the picture.

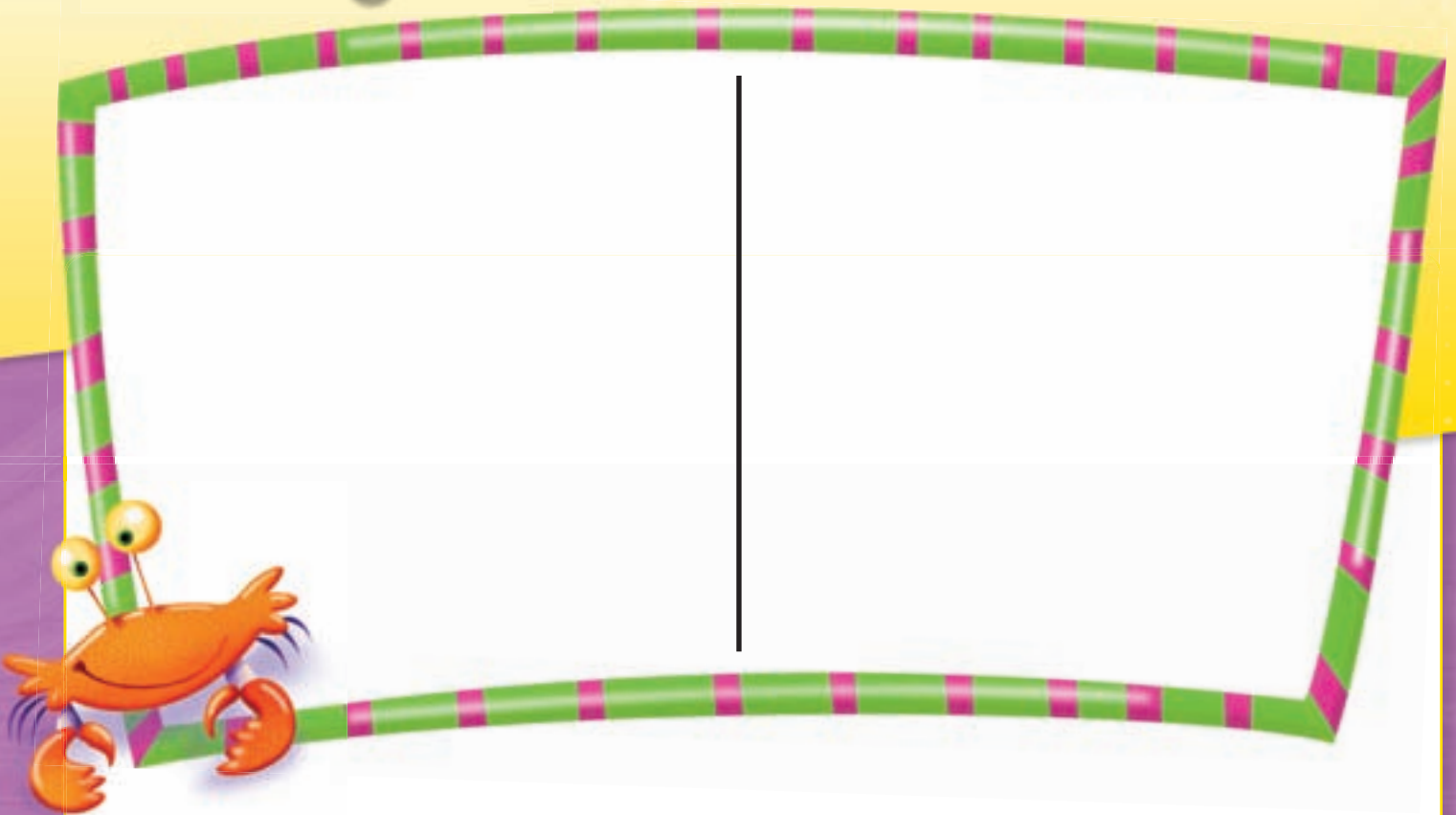
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

Name \_\_\_\_\_



Problem Solving

# Use Objects



1. 8 is \_\_\_\_\_ and \_\_\_\_\_.



2. 8 is \_\_\_\_\_ and \_\_\_\_\_.



3. 8 is \_\_\_\_\_ and \_\_\_\_\_.



**Home Connection** Your child used objects to solve problems involving ways to show numbers in two parts.  
**Home Activity** Give your child 9 small objects such as pennies. Ask him or her to show different ways the pennies can be put in 2 groups.

**MR 1.2** Use tools, such as manipulatives or sketches, to model problems. Also **NS 1.3, MR 2.2.**

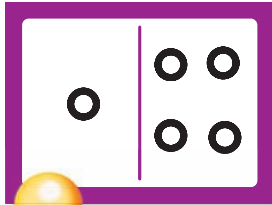
## Read and Understand

What different ways can I put 5 balls into two boxes?



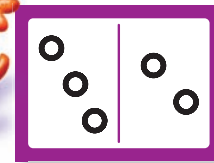
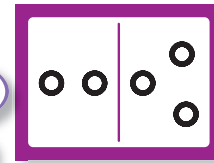
## Plan

I can use counters to show one way.



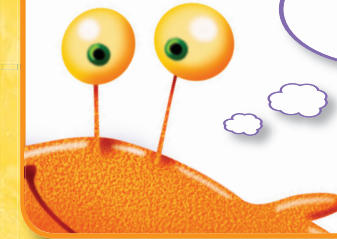
## Solve

I can move counters to find different ways.



## Look Back and Check

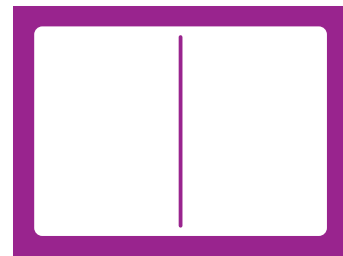
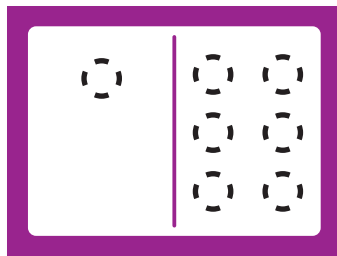
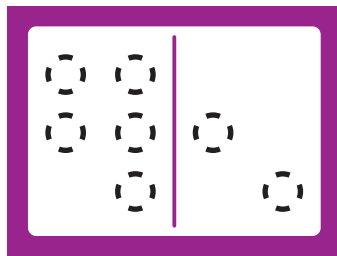
I can count the counters in both parts to check that I have 5 in all.



## Guided Practice

Use counters to solve. Draw a picture to show your answers.

1. Gina has 7 stickers. She puts them on two cards. Show different ways Gina can do this.
2. Max puts 8 cherries into two baskets. What different ways can he do this?

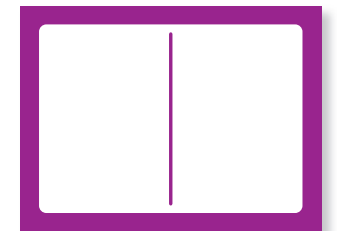
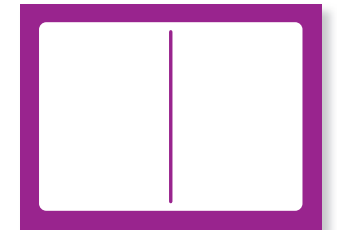
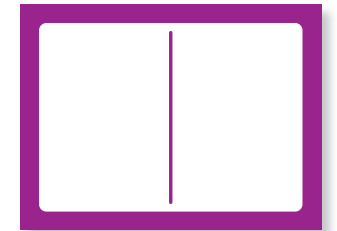


**Do you understand?** How does using objects help you solve problems?

## Independent Practice

Use counters to solve. Draw a picture to show your answers.

3. Maya has 6 shirts. She packs them in two bags. What different ways can Maya do this?
4. Jake has 9 books. He puts them on two tables. Show ways Jake can do this.



## Problem Solving

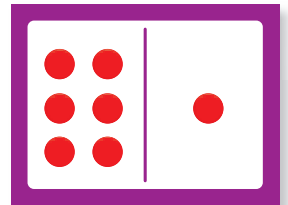
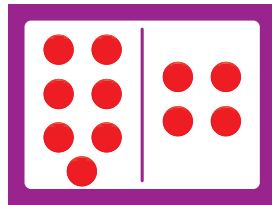
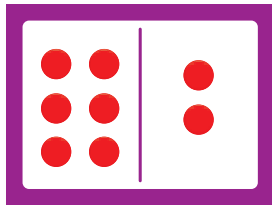
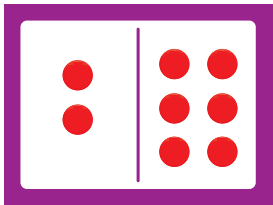
Solve the problems below.


5. Raj puts 8 yo-yos in two jars.  
He puts some in each jar.  
Show two ways Raj can put the yo-yos  
into the jars. Use counters to solve.

\_\_\_\_\_ and \_\_\_\_\_

\_\_\_\_\_ and \_\_\_\_\_

6. You can show 7 in different ways.  
Which of these shows a way to make 7?



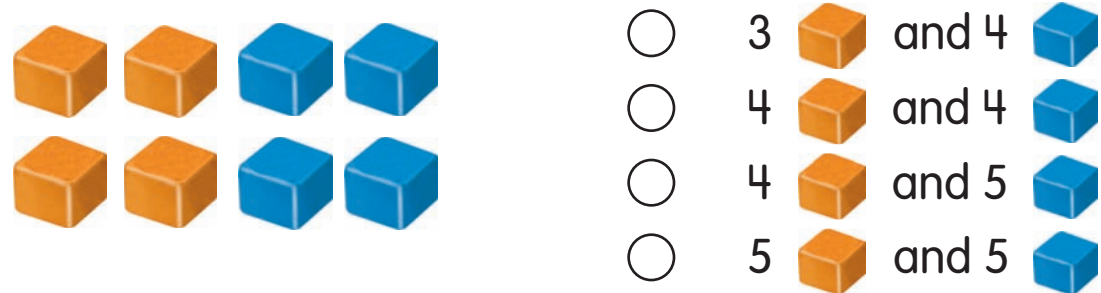
7.  **Journal** Draw pictures to show two ways to put  
6 pennies into two jars.

1



- 4       5       6       7

2



3

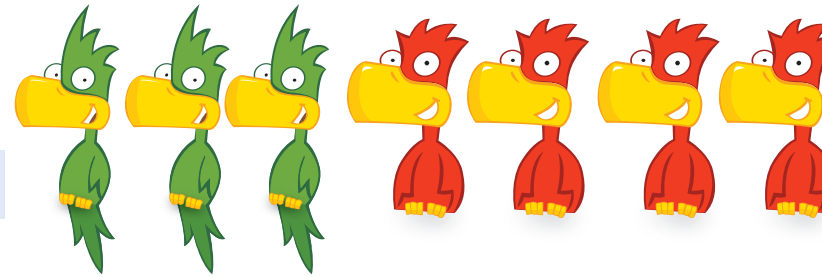


- 2       5       7       9

**Oral Directions** Say: Mark the correct answer. **1.** 3 are inside. 4 are outside. How many are there in all? **2.** Which numbers show parts of 8? **3.** The picture shows the parts. How many balls are there in all?

Name \_\_\_\_\_

4



- $3 + 1 = 4$         $3 + 3 = 6$         $3 + 4 = 7$         $4 + 4 = 8$

5



- $4 - 2 = 2$         $2 + 2 = 4$         $4 + 2 = 6$         $4 + 4 = 8$

6

$3 + ? = 8$   
 $? + 3 = 8$

- 3       5       8       11

7



- 

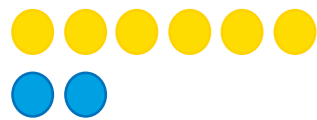
**Oral Directions** Say: Mark the correct answer. **4.** There are 3 green birds and 4 red birds. Which addition sentence shows how many birds in all? **5.** Al has 4 purple cars. Zoe gives him 2 blue cars. How many cars does Al have now? **6.** What is the missing addend? **7.** Lia has 7 apples. She puts them in two bags. Which shows one way she can do this? Use counters if you like.



### Set A

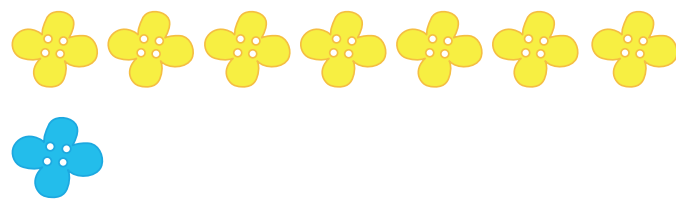
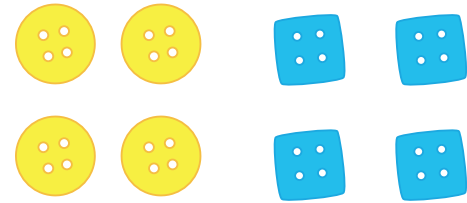
You can write numbers to show parts of 8.

The whole set is 8 in all.



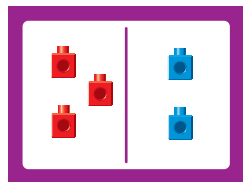
6 and 2 is 8 in all.  
 ↑      ↑      ↑  
 part    part    whole

Write the numbers to show parts of 8.



### Set B

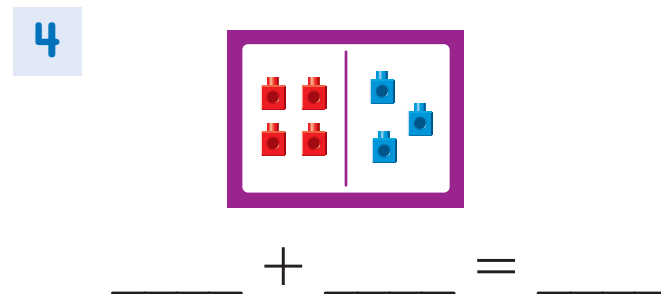
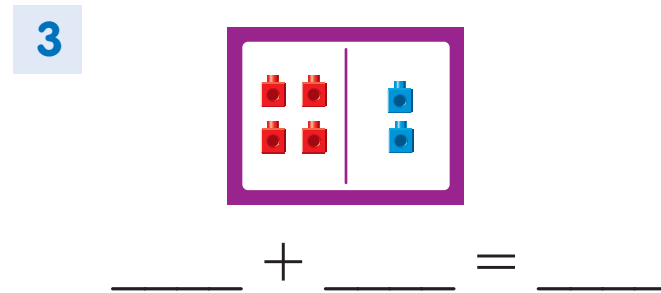
You can write an addition sentence to find how many in all.



3 and 2 is 5 in all.  
 3 plus 2 equals 5.

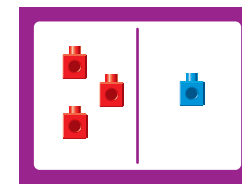
$$\underline{3} + \underline{2} = \underline{5}$$

Use the picture.  
 Write an addition sentence.



### Set C

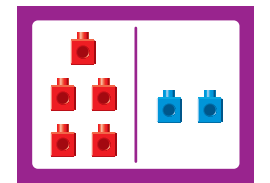
You can write an addition sentence to solve a joining story. Chloe has 3 shells. She finds 1 more. How many shells does Chloe have in all?



3 plus 1 more equals 4.  
 $3 + 1 = 4$

Write an addition sentence to solve.

- 5 Ethan plants 5 flowers. Then he plants 2 more. How many flowers does Ethan plant in all?



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

### Set D

Find the sum.

$$2 + 5 = \frac{7}{\text{sum}}$$

You can change the order of the addends. Write the new addition sentence.

$$\underline{5} + \underline{2} = \frac{7}{\text{sum}}$$

The sum is the same.

Write the sum. Then change the order of the addends. Write the new addition sentence.

6  $1 + 4 = \underline{\quad}$

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

7  $6 + 3 = \underline{\quad}$

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