

## Common Core State Standards

**1.OA.A.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

## Objective

Solve word problems within 20, involving putting together and taking apart.

Here is a group of 13 horses. 7 are brown. How many are black?

## Solve Put-Together and Take-Apart Word Problems

Children have explored addition and subtraction problems involving add-to and take-from situations. Children will now use addition and subtraction within 20 to solve situations of putting together and taking apart. Children use direct modeling and count all or count a group and take it apart. Once children are competent with these types of problems, they are ready to approach problem situations involving comparing.

## Vocabulary

Distribute Rekenreks and write the number sentence  $4 + 6 = \underline{\quad}$ .

■ **Say:** *I am going to read you a problem to show with the Rekenrek.*

*I have some snack bags. 4 bags are carrot chips and 6 bags are apple chips. How many snack bags do I have?*

■ **Ask:** *What 2 groups did you make? [4 and 6]*

■ **Ask:** *What do you do next to solve the problem?*

Have children combine the 2 groups by putting them together.

■ When you **combine** groups, you put them together.



## Set the Stage

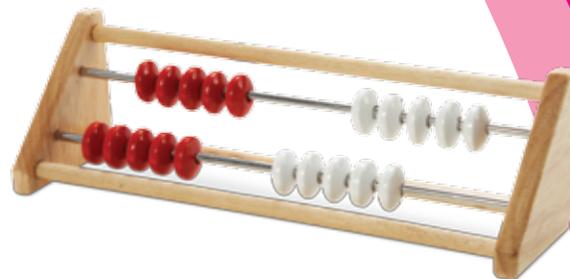
### Engage WHOLE CLASS

Display a Rekenrek and write the number sentence  $\_\_ + \_\_ = 10$ . Then present the problem—

*Shari has 10 pieces of stickers. Some are cats and some are dogs. How many stickers could be cats? How many stickers could be dogs?*

- **Ask:** How many stickers does Shelly have in all? [10]
- **Ask:** We know that some are cats and some are dogs. How can we show this on the Rekenrek? [Answers will vary.]
- **Ask:** How can we write numbers in the number sentence to represent a solution? [Answers will vary.]
- **Ask:** What is another way we can solve this problem? How should we move the beads on the Rekenrek to show the stickers?

Have children guide you to represent different combinations of 10 on the Rekenrek to solve the problem.



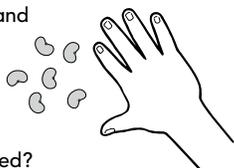
### Warm-Up

Use this short thinking exercise to jump-start the instructional session.

Name Answer Key

**2**

Mike started with 9 beans and then covered some.



How many beans are covered?

**ANSWER:** 3 beans

**COMMENTS & EXTENSIONS:** Teachers can learn a lot about students' thinking by asking them to think out loud. How will students solve this one? Will they subtract 6 from 9 or start at 6 and count up to 9?



### Foundation Skill Practice

Use this VersaTiles® activity to help children activate their prior knowledge.

### Patterns to Add and Subtract By!

Find how many more make 10.

**1**



**2**



**3**



**4**



**5**



**6**



**7**



**8**



**9**



Add or subtract.

**10**

$18 - 8$

**11**

$10 + 8$

**12**

$15 - 1$

### Answer Box

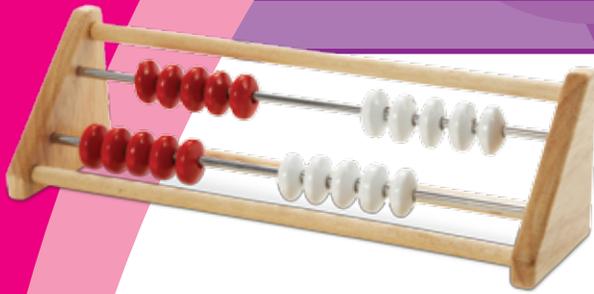
A	B	C	D	E	F
10	7	14	4	18	1
G	H	I	J	K	L
8	5	6	9	2	3

**6**

Objective: Add and subtract.



# Introduce the Concept



## Materials

- Rekenrek



## Explore & Explain

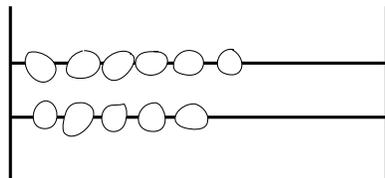
Lesson  
**2**

Solve Put-Together and  
Take-Apart Word Problems

Name \_\_\_\_\_ *Answer Key*

### Try This

- There are 6 red napkins and 5 yellow napkins on the table. How many napkins are on the table?
- Use the rekenrek to build a model.



$$6 + 5 = \underline{11}$$

**Use the Rekenrek. Draw your model and complete the sentence.**

1. There are 7 plates and 8 glasses on the table. How many dishes are on the table in all?

Check children's drawings.

$$7 + 8 = \underline{15}$$



Understanding Addition and Subtraction ■ Lesson 2

continued on the next page  
Hands-On Standards® Number & Operations

Online resources available at [hand2mind.com/hosnumbergr1](http://hand2mind.com/hosnumbergr1)

## Explore WHOLE CLASS

Distribute Rekenreks. Present the problem—

*There are 16 children in the classroom. Nine are girls and the rest are boys. How many children in the classroom are boys?*

■ **Ask:** How can we show the problem as a subtraction number sentence? [ $16 - 9 = ?$ ]

■ **Ask:** What do we know?

Elicit from children that we know the total number of children in the room. Then have children count out 16 beads to show the total.

■ **Ask:** What else do we know? [9 girls are in the room.]

■ **Say:** Take apart the 16 beads to show one of the groups, 9.

■ **Ask:** What do you think is the next step to solve the problem? [count the amount in the other group]

■ **Ask:** How many beads are in the other group? [7] How many children in the room are boys? [7]

■ **Ask:** How could we write this problem as addition? [ $9 + ? = 16$ ]

■ **Ask:** Can you tell me in words what this number sentence is saying? [Answers may vary; 9 girls plus a number of boys equals 16 children in the classroom.]

■ **Say:** We see that the problem can be shown by either the subtraction number sentence or this addition number sentence.

## Explore & Explain SMALL GROUPS

**Prepare ahead** Distribute Rekenreks to each group. Children build models using Rekenreks, draw models, and write number sentences to demonstrate an understanding of put-together and take-apart word problems. These activities help children concretely approach problems whose language can be challenging. By modeling the action with Rekenrek, and then drawing these models, children gain a conceptual understanding that addition and subtraction can involve the putting together and taking apart of numbers.

# Reinforce the Concept

## Explain & Elaborate WHOLE CLASS

- **Ask:** *What is another possible answer to question 2?* [Answers will vary.]
- **Say:** *Explain how your drawing in question 3 represents the problem.* [Answers will vary.]

## Evaluate WHOLE CLASS

- **Say:** *I am going to read you a problem. Use the Rekenrek to model the problem.*

*There are 14 boxes in the kitchen. 6 boxes are on the table and the rest are on the floor. How many boxes are on the floor?* [8]

- **Say:** *Explain your model. How does it show how many boxes are on the floor?*



## Independent Practice

Use this VersaTiles® activity to give children more practice with the skills they learned in the lesson.

### Put Together and Take Apart

Solve.

- 1 Laura painted 5 toes red and 5 toes blue. How many toes did she paint?
- 2 Teddy had 24 eggs. 8 are brown and the rest are white. How many eggs are white?
- 3 Emily had to read 18 pages. She read 3 pages in the day and the rest at night. How many pages did she read at night?
- 4 There are 4 green stars and 3 blue stars. How many stars in all?
- 5 David biked 13 miles. He also swam. He went 16 miles. How many miles did he swim?
- 6 Jim made \$10 on Monday. He made \$2 on Tuesday. How much did he make in all?
- 7 Evan had 12 socks. 8 are long and the rest are short. How many socks are short?

4

VersaTiles® student book, pages 4–5



## Re-Engage

Use this page to give children additional concrete-to-representational-to-abstract practice.

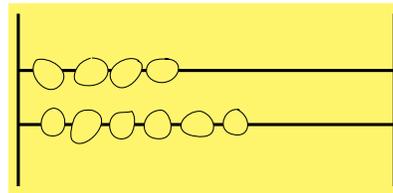
LESSON  
2

Solve Put-Together and Take-Apart Word Problems

Name Answer Key

Use the Rekenrek to model. Solve.

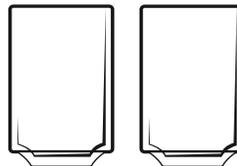
1. There are 4 oranges and 6 bananas in the basket. How many pieces of fruit are in the basket?



$$4 + 6 = 10$$

Draw a picture to solve.

2. Carmine has 11 ice cubes. How many could he put in each cup?



Answers will vary.

$$11 = \underline{\quad} + \underline{\quad}$$

Understanding Addition and Subtraction ■ Lesson 2

continued on the next page  
Hands-On Standards® Number & Operations

Online resources available at [hand2mind.com/hosnumbergr1](http://hand2mind.com/hosnumbergr1)



## Daily Routine

### Formative Assessment of Vocabulary

During transition time, the teacher asks individual children to pantomime the words often used in math word problems to check for understanding of addition and subtraction vocabulary: joining, putting together, adding to, separating, taking apart, and taking from.