

### Cluster 1 Introduction

The instruction begins with identifying multiples of 2 using pictures of familiar objects. Multiples of 2 are identified as pairs, even numbers, and equal addends. A review of skip counting provides a soft introduction to multiplication.

The activities focus on even numbers within 10, using pictures and numerals together before proceeding to numerals by themselves. Students match sets of objects to even numbers. After reviewing even numbers, they practice the process with odd numbers—pairs plus one. The activities mirror those used for even numbers to ensure familiarity.

The cluster develops the generalization for even numbers: even numbers are made of two equal addends. It reinforces the addition strategy of doubles and emphasizes the language of partners as pairs. Identifying pictures of sets of objects as odd or even and matching pairs of equal addends concludes the basic introduction to odd and even numbers within 15.

**Distribute activity sheet 108 to the students.**

#### Instruction: activity sheet 108<sup>1</sup>

- You may already know about odd and even numbers. You will use that knowledge to use pairs in **multiplication**. **Multiplication** is another operation used with numbers. **Multiplication** is repeated addition. You will learn more about **multiplication** in the next few weeks.

The two skills you will apply to **multiplication** are pairs and odd and even numbers. Discuss with your partner things that come in pairs. Did you talk about eyes, ears, hands, legs, feet, glasses, earmuffs, gloves, jeans, shoes, and boots?

What are some other things that come in pairs?

If you were to define a pair to someone who knew nothing about pairs, what would you tell them?



There are some key things to remember about pairs. I will write them on the whiteboard as we discuss them.

- ◆ List the key ideas on the whiteboard as they are shared.<sup>2</sup>
  - In pairs, there are two things that are the same. When we think about a pair of eyes, it is two eyes. It is not one eye and one ear.

We talk about pairs of glasses and pairs of jeans. Do those phrases mean two sets of glasses and two sets of jeans? Think about it.

No. A pair of glasses includes two lenses. It would be hard to wear *a glass*. A pair of jeans includes two pant legs. It would be funny to wear *a jean*. On the back of your activity sheet, draw a picture of someone wearing a glass or a jean. Since eyes and legs come in pairs, the **coverings** for them must also come in pairs.

Since pairs are two things that are the same, all pairs are even numbers. Think about that.

#### Instructional Insight

<sup>1</sup>Deepening current understanding of familiar concepts and language is foundational to building a new concept.

Name \_\_\_\_\_

1	● odd ○ even
2	○ odd ● even
3	● odd ○ even
4	○ odd ● even
5	● odd ○ even
6	○ odd ● even
7	● odd ○ even
8	○ odd ● even
9	● odd ○ even
10	○ odd ● even

List the even numbers. 2, 4, 6, 8, 10

List the odd numbers. 1, 3, 5, 7, 9

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**108**

#### Basic Background

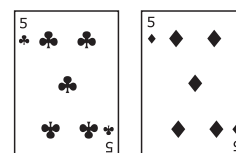
<sup>2</sup>Identifying attributes of pairs is probably new for many students. Take time to structure their thinking, which will prepare students for multiplication.

- ◆ Draw a number line 0 to 10 on the whiteboard. Draw tick marks for the even numbers.
  - Start at 0, and skip count by 2. I will write the numbers as you say them: 0, 2, 4, 6, 8, 10.<sup>1</sup>

These numbers are pairs. Think of them as doubles. What two **equal addends** make 2? Yes, 1 + 1. What two **equal addends** make 4? Yes, 2 + 2. How about 6? 8? 10? Whenever you have two **equal addends**, the result is an even number. The sums will always have 0, 2, 4, 6, or 8 in the ones place.

Let's talk some more about pairs. Do the two items in a pair have to be exactly the same? No, they only need to be alike in one way.

- ◆ Demonstrate examples with a deck of playing cards.
  - Here are two 5s, a pair of 5s. They both represent the number 5. Are they exactly the same? No. One is a club; the other is a diamond. When talking about the value of the card, the suit and the color don't matter.



pair = 2 partners

Another key is that a pair is two items that are typically used together, two partners. Think about a married couple, twins, dance partners (e.g., pairs of ice skaters), tires on a bicycle, names of businesses (e.g., Abercrombie and Fitch, Barnes and Noble, Sears and Roebuck), and many more. Can you think of pairs or partners that you see every day?

Please look at this activity sheet. Each row has a number of socks from 1 to 10. Does the one sock in the first row have a partner? No. Is it an even number? No. All items in an even number have partners. Fill in the bubble for A, odd.

Draw a ring around the two socks in the second row. Is this a pair? Does every sock have a partner? Yes. Is 2 an even number? Yes. Fill in the bubble.

Draw a ring around each pair of socks in the third row. How many socks are in this row? Does every sock have a partner? No. Is 3 an even number? No. Fill in the bubble.

Draw a ring around each pair of socks in the next row. How many socks are in this row? Does every sock have a partner? Is 4 an even number? Fill in the bubble.

Complete the other rows the same way. Draw rings around each pair of socks. If every sock has a partner, the number is even. Write the number if necessary, and fill in the bubble. Please put your pencil down when you have finished.

Read the directions in the box at the bottom of the page. If you do not know the numbers to write, what can you do? Yes, look at the numbers with the rows of socks. All the numbers marked B are even numbers. They go on the first set of lines. All the numbers marked A are odd numbers. They go on the second set of lines. When you have finished, read each set.

### Basic Background

<sup>1</sup>Number lines are good models since skip counting can be quickly recognized.

Name \_\_\_\_\_

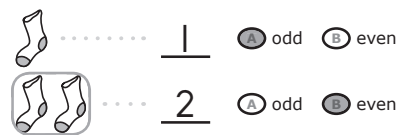
	..... 1	<input type="radio"/> odd	<input type="radio"/> even
	..... 2	<input type="radio"/> odd	<input checked="" type="radio"/> even
	..... 3	<input checked="" type="radio"/> odd	<input type="radio"/> even
	..... 4	<input type="radio"/> odd	<input checked="" type="radio"/> even
	..... 5	<input checked="" type="radio"/> odd	<input type="radio"/> even
	..... 6	<input type="radio"/> odd	<input checked="" type="radio"/> even
	..... 7	<input checked="" type="radio"/> odd	<input type="radio"/> even
	..... 8	<input type="radio"/> odd	<input checked="" type="radio"/> even
	..... 9	<input checked="" type="radio"/> odd	<input type="radio"/> even
	..... 10	<input type="radio"/> odd	<input checked="" type="radio"/> even

List the even numbers. 2, 4, 6, 8, 10

List the odd numbers. 1, 3, 5, 7, 9

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### Instructional Insight

<sup>1</sup>Extending pairs to identify odd and even numbers is included in the instruction and guided practice. This provides the framework for multiplication.

### Independent Practice

No independent practice is recommended.<sup>1</sup>

Name \_\_\_\_\_

$$\begin{array}{r} 100 \\ + 70 \\ \hline \end{array}$$

(A) 107  
 (B) 700  
 (C) 170  
 (D) None of the above

$$\begin{array}{r} 350 \\ - \square\square \\ \hline 300 \end{array}$$

(A) 50  
 (B) 100  
 (C) 150  
 (D) None of the above

$$\begin{array}{r} 240 \\ + \square\square \\ \hline 300 \end{array}$$

(A) 160  
 (B) 610  
 (C) 110  
 (D) None of the above

$$\begin{array}{r} 864 \\ - \square\square \\ \hline 804 \end{array}$$

(A) 30  
 (B) 40  
 (C) 50  
 (D) None of the above

$$718 + 10$$

(A) >  (B) <  (C) =

$$738 - 10$$

$$596 + 10$$

(A) >  (B) <  (C) =

$$606 - 10$$

A football team had 28 points.  
It scored 10 more points.  
What was its total score?

\_\_\_\_\_ points

(A) 18  
 (B) 28  
 (C) 29  
 (D) None of the above

$$\begin{array}{r} 534 \\ + 70 \\ \hline \end{array}$$

(A) 604  
 (B) 541  
 (C) 504  
 (D) None of the above

$$\begin{array}{r} 410 \\ - \square\square \\ \hline 330 \end{array}$$

(A) 180  
 (B) 120  
 (C) 80  
 (D) None of the above

$$627 + 170$$

(A) >  (B) <  (C) =

$$807 - 150$$

Jaiden was a long distance runner.  
He ran 425 yards in the first race.  
He ran 300 yards in the second race.  
How many total yards did he run in  
the two races?

\_\_\_\_\_ yards

(A) 455  
 (B) 428  
 (C) 725  
 (D) None of the above

Name \_\_\_\_\_

	↓	
h	t	o
6	4	3
+	1	2
8	8	8
-----		

	↓	
h	t	o
1	9	7
+	3	6
5	5	5
-----		

	↓	
h	t	o
2	0	8
+	4	9
7	7	7
-----		

	↓	
h	t	o
3	5	6
+	2	8
1	1	1
-----		

	↓	
h	t	o
5	2	7
+	1	8
0	0	0
-----		

	↓	
h	t	o
4	1	9
+	5	2
3	3	3
-----		

	↓	
h	t	o
3	8	6
+	4	6
7	7	7
-----		

	↓	
h	t	o
2	0	9
+	2	9
0	0	0
-----		

$532 + 154$

> = <

$522 + 154$

$628 + 199$

> = <

$618 + 199$

Jacksonville has 76 students in kindergarten, 101 students in first grade, 126 students in second grade, and 151 students in third grade.

The pattern is \_\_\_\_\_.

How many students are in fourth grade? \_\_\_\_\_ students

How many students are in fifth grade? \_\_\_\_\_ students

Name \_\_\_\_\_

$$\begin{array}{r} 574 \\ -139 \\ \hline \end{array}$$

$$\begin{array}{r} 661 \\ -348 \\ \hline \end{array}$$

$$\begin{array}{r} 487 \\ -229 \\ \hline \end{array}$$

$$\begin{array}{r} 795 \\ -406 \\ \hline \end{array}$$

$$\begin{array}{r} 838 \\ -465 \\ \hline \end{array}$$

$$\begin{array}{r} 765 \\ -581 \\ \hline \end{array}$$

$$\begin{array}{r} 676 \\ -393 \\ \hline \end{array}$$

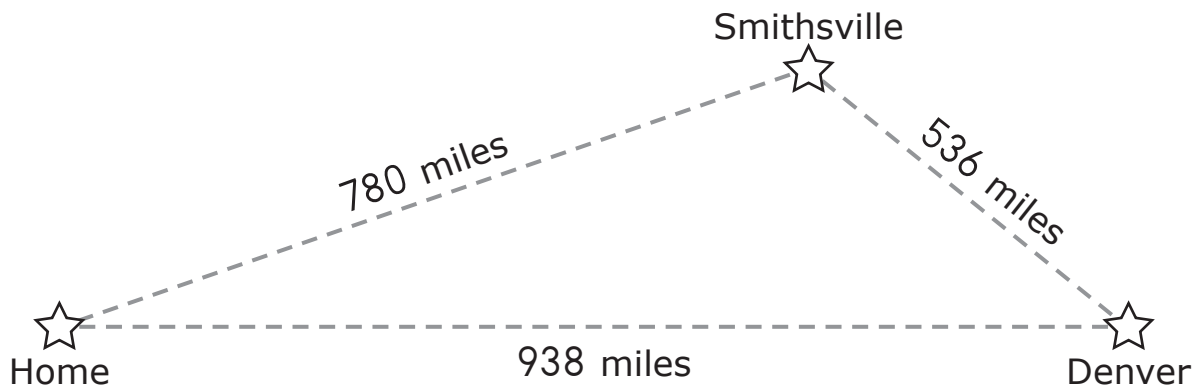
$$\begin{array}{r} 419 \\ -286 \\ \hline \end{array}$$

$$\begin{array}{r} 578 \\ -239 \\ \hline \end{array}$$

$$\begin{array}{r} 888 \\ -179 \\ \hline \end{array}$$

$$\begin{array}{r} 752 \\ -381 \\ \hline \end{array}$$

$$\begin{array}{r} 669 \\ -278 \\ \hline \end{array}$$



How many more miles is it from Home to Smithville than it is from Smithville to Denver? \_\_\_\_\_ miles

How many more miles is it from Home to Denver than it is from Home to Smithville? \_\_\_\_\_ miles

Name \_\_\_\_\_

Chun and Huong were making chains with beads.

Chun used 146 red beads, 160 blue beads, and 174 green beads.

Huong used 116 red beads, 145 blue beads, and 174 green beads.

	Chun	Huong
red beads	146	116
blue beads	160	145
green beads	174	174
total beads		
pattern		
next number in the pattern		

About how many beads did they use altogether?

	Actual	Estimate
Chun		
Huong		

         beads               beads

The girls had a total of 45 beads left when they finished making the chains of red, blue, and green beads. How many beads did they have when they started?

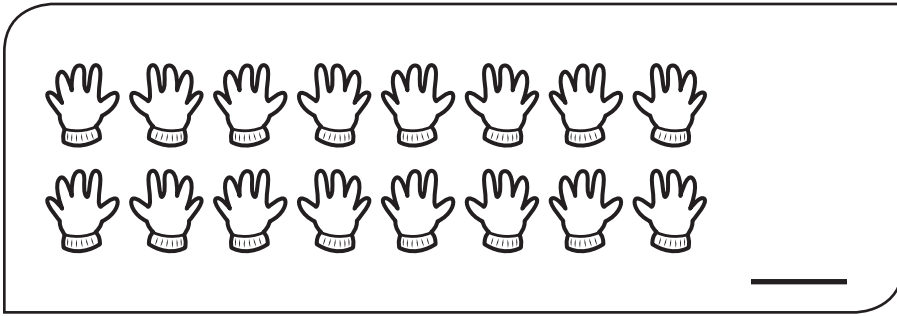
- (A) 860 beads
- (B) 906 beads
- (C) 960 beads

Look at the table at the top. If the next number in the pattern is yellow beads, how many total beads were used by Chun?

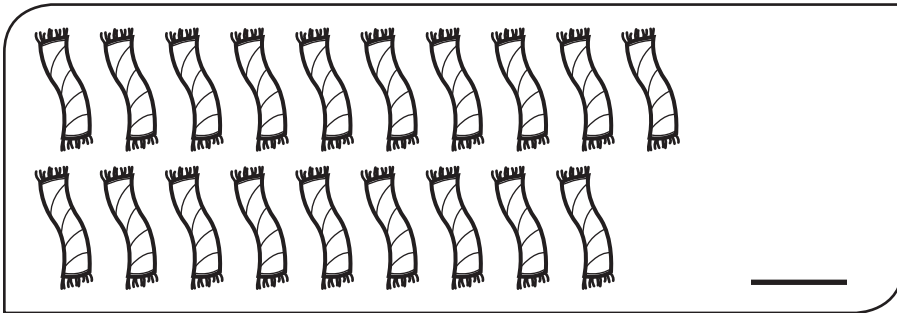
- (A)  $906 - 470$
- (B)  $480 + 188$
- (C)  $668 - 14$

If Chun and Huong used the same number of beads to make each chain, who made more chains? (A) Chun (B) Huong

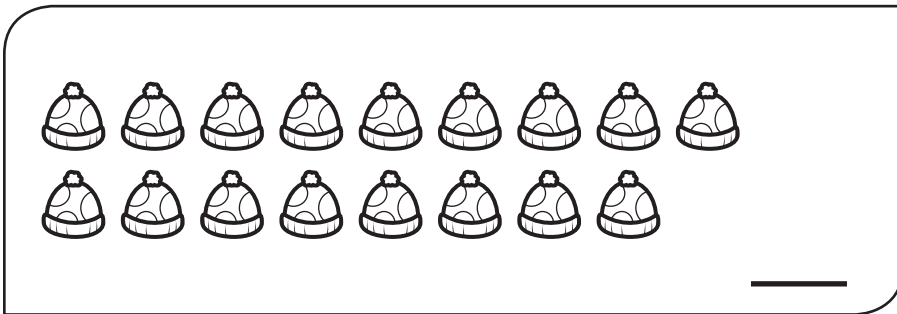
Name \_\_\_\_\_



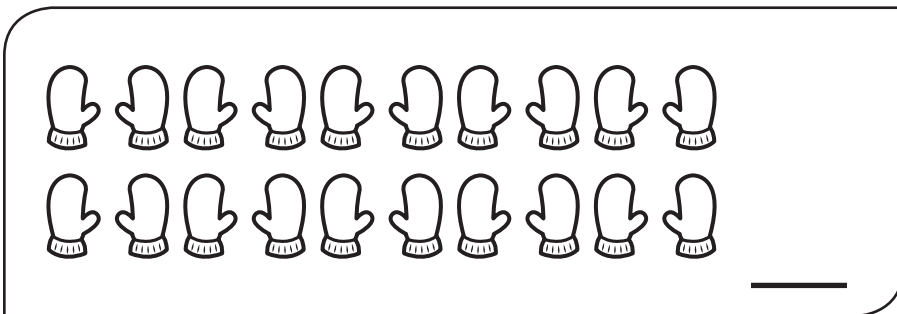
$$10 + 10$$



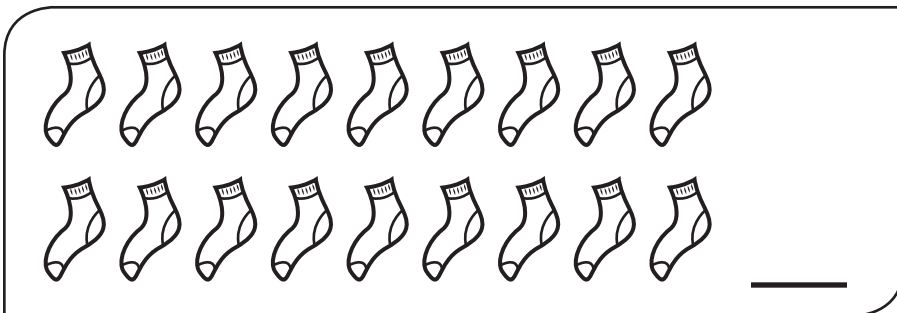
odd  
number



$$8 + 8$$



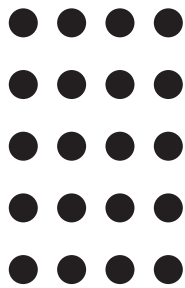
even  
number



$$9 + 9$$

Name \_\_\_\_\_

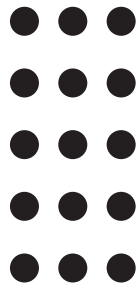
Ring 3 groups  
of 4 dots.



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

$$3 \times 4 = \underline{\quad}$$

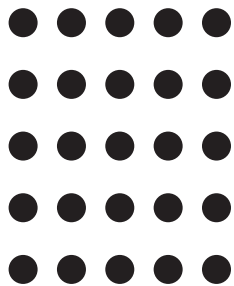
Ring 4 groups  
of 3 dots.



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

$$4 \times 3 = \underline{\quad}$$

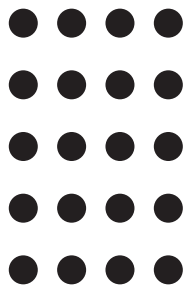
Ring 4 groups  
of 5 dots.



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

$$4 \times 5 = \underline{\quad}$$

Ring 5 groups  
of 4 dots.



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

$$5 \times 4 = \underline{\quad}$$

You have 5 rocks in each hand.

Count by 5 to find how many rocks you have.

\_\_\_\_\_ rocks