

Name \_\_\_\_\_

## Algebra • Even and Odd Numbers

**Essential Question** How are even numbers and odd numbers different?

### HANDS ON Lesson 1.1

**Learning Objective** You will determine if a group of objects, up to 20, has an even or odd number of members.

**Listen**



Use to show each number.





**FOR THE TEACHER** • Read the following problem. Beca has 8 toy cars. Can she put her cars in pairs on a shelf? Have children set pairs of cubes vertically on the ten frames. Continue the activity for the numbers 7 and 10.



Math Processes and Practices **6**

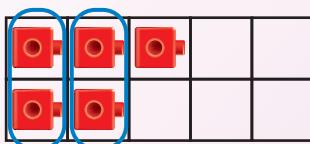
When you make pairs for 7 and for 10, how are these models different? **Explain.**

## Model and Draw

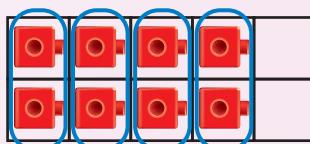
Count out cubes for each number. Make pairs.

**Even** numbers show pairs with no cubes left over.

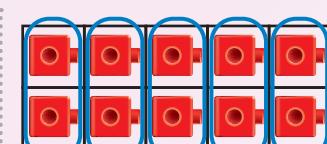
**Odd** numbers show pairs with one cube left over.



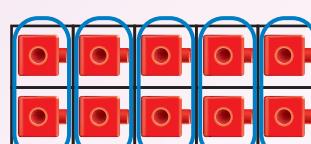
5 odd



8 even



12 \_\_\_\_\_



15 \_\_\_\_\_

## Share and Show



Use cubes. Count out the number of cubes.

Make pairs. Then write **even** or **odd**.

1. 6 \_\_\_\_\_

2. 3 \_\_\_\_\_

3. 2 \_\_\_\_\_

4. 9 \_\_\_\_\_

5. 4 \_\_\_\_\_

6. 10 \_\_\_\_\_

7. 7 \_\_\_\_\_

8. 13 \_\_\_\_\_

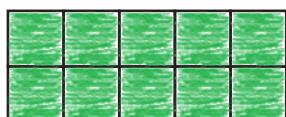
9. 11 \_\_\_\_\_

10. 14 \_\_\_\_\_

**On Your Own**

Shade in the ten frames to show the number.  
Circle **even** or **odd**.

11. 17

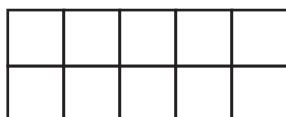


even



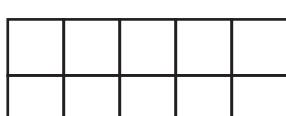
odd

12. 16



even

16



odd

13. 19



even



odd

14. There are an even number of boys and an odd number of girls in Lena's class. How many boys and girls could be in her class?  
Show your work.

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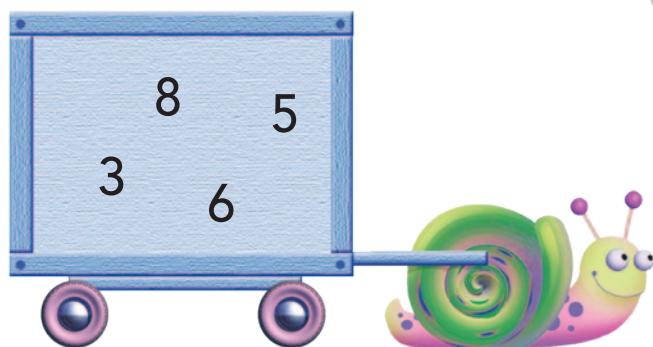
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15. Math Processes and Practices **3** **Make Arguments**

Which two numbers in the box  
are even numbers?

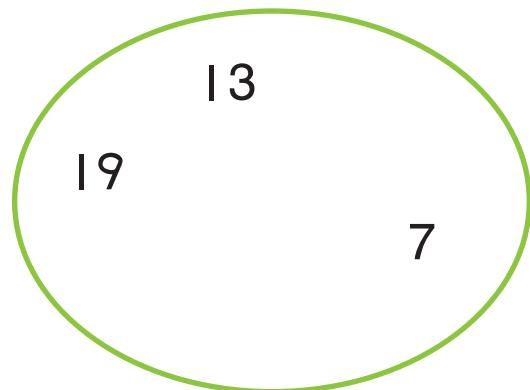
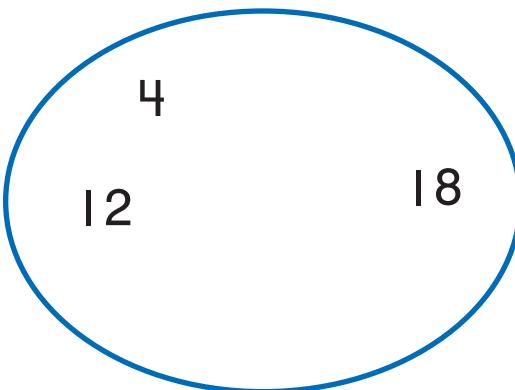
\_\_\_\_\_ and \_\_\_\_\_

**Explain** how you know that they  
are even numbers.



**Problem Solving • Applications****Math**

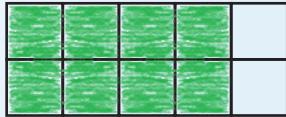
- 16.** **THINK SMARTER** Fill in the blanks to describe the groups of numbers. Write **even** or **odd**.

**numbers****numbers**

Write each of these numbers inside the correct loop.

**5****6****10****11****24****25**

- 17.** **THINK SMARTER** Does each ten frame show an even number? Choose Yes or No.

 Yes No Yes No

**TAKE HOME ACTIVITY** • Have your child show you a number, such as 9, using small objects and explain why the number is even or odd.

**Algebra • Even and Odd Numbers****Lesson 1.1**

**Shade in the ten frames to show the number. Circle even or odd.**

1. 15


even

odd

2. 18


even

odd

3. 11


even

odd

**Problem Solving**

4. Mr. Dell has an odd number of sheep and an even number of cows on his farm. Circle the choice that could tell about his farm.

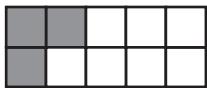
9 sheep and 10 cows  
10 sheep and 11 cows  
8 sheep and 12 cows

5. Write two odd numbers and two even numbers. Explain how you know which numbers are even and which are odd.

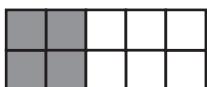
## Lesson Check

1. Circle the even number.

3



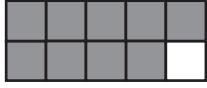
4



5



9



2. Circle the odd number.

2



6



7



8



## Spiral Review

3. Circle the odd number.

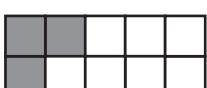
10



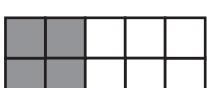
8



3



4



4. Circle the even number.

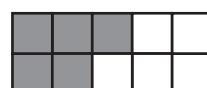
7



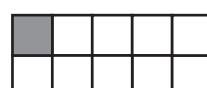
6



5



1



5. Circle the even number.

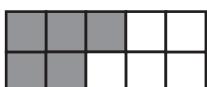
9



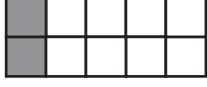
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5

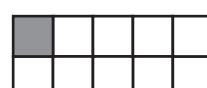


2

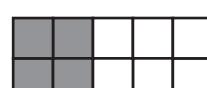


6. Circle the odd number.

1



4



8



10



## Algebra • Represent Even Numbers

**Essential Question** Why can an even number be shown as the sum of two equal addends?

### Listen and Draw



Make pairs with your cubes. Draw to show the cubes. Then write the numbers you say as you count to find the number of cubes.

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 cubes


Math Processes and Practices 2



**FOR THE TEACHER** • Give each small group of children a set of 10 to 15 connecting cubes. After children group their cubes into pairs, have them draw a picture of their cubes and write their counting sequence for finding the total number of cubes.

### Use Reasoning

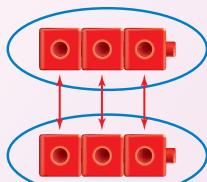
Explain how you know if a number modeled with cubes is an even number.

## Model and Draw

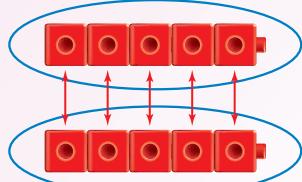
An even number of cubes can be shown as two equal groups.

You can match each cube in the first group with a cube in the second group.

$$6 = 3 + 3$$



$$10 = 5 + 5$$

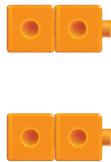


### Share and Show

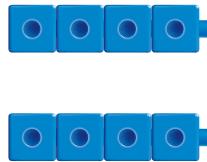


How many cubes are there in all? Complete the addition sentence to show the equal groups.

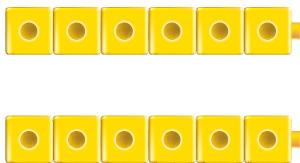
1. \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_



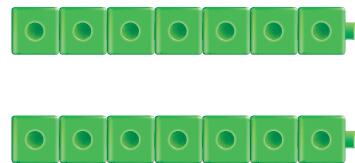
2. \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_



3. \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_



4. \_\_\_\_\_ = \_\_\_\_\_ + \_\_\_\_\_



**On Your Own**

Shade in the frames to show two equal groups for each number. Complete the addition sentence to show the groups.

5. 10



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

6. 16



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

7. Elena and José have 18 postcards together. They each have the same number of postcards. How many postcards do Elena and José each have?

\_\_\_\_\_ postcards

**THINK SMARTER**

The number 7 is an odd number. Marc showed 7 with this addition sentence. Use Marc's way to show these odd numbers with addition sentences.



$$7 = 3 + 3 + 1$$

8.  $5 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

9.  $11 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

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

11.  $13 = \underline{\quad} + \underline{\quad} + \underline{\quad}$

**Problem Solving • Applications****Math**

Solve. Write or draw to explain.

**12.** Math Processes and Practices **2** **Use Reasoning**

Jacob and Lucas each have the same number of **shells**. Together they have 16 shells. How many shells do Jacob and Lucas each have?



Jacob: \_\_\_\_\_ shells

Lucas: \_\_\_\_\_ shells

- 13.** **THINK SMARTER** Choose an even number between 10 and 19. Draw a picture and then write a sentence to explain why it is an even number.

**Personal Math Trainer**

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**TAKE HOME ACTIVITY** • Have your child explain what he or she learned in this lesson.

**Algebra • Represent Even Numbers**

Shade in the frames to show two equal groups for each number. Complete the addition sentence to show the groups.

1. 8 

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

2. 18 

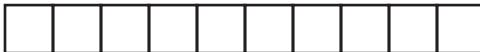
$$\underline{\quad} = \underline{\quad} + \underline{\quad}$$

3. 10 

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

4. 14 

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

5. 20 

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

**Problem Solving**

Solve. Write or draw to explain.

6. The seats in a van are in pairs. There are 16 seats. How many pairs of seats are there?

       pairs of seats

7.  Draw or write to show that the number 18 is an even number.

## Lesson Check

1. Circle the sum that is an even number.

$$9 + 9 = 18$$

$$9 + 8 = 17$$

$$8 + 7 = 15$$

$$6 + 5 = 11$$

2. Circle the sum that is an even number.

$$1 + 2 = 3$$

$$3 + 3 = 6$$

$$2 + 5 = 7$$

$$4 + 7 = 11$$

## Spiral Review

3. Circle the even number.

7

9

10

13

4. Circle the odd number.

4

11

16

20

5. Ray has an odd number of cats. He also has an even number of dogs. Complete the sentence.

Ray has \_\_\_\_\_ cats and  
\_\_\_\_\_ dogs.

6. Circle the sum that is an even number.

$$2 + 3 = 5$$

$$3 + 4 = 7$$

$$4 + 4 = 8$$

$$7 + 8 = 15$$