Think It Through

Understand Even and Odd Numbers

What are even and odd numbers?

You can break apart some numbers into groups of 2. Look at these 8 socks.

![Sock groupings](image)

Think Sometimes when you make groups of 2, there is a leftover.

Look at these 7 shoes.

Circle groups of 2.

![Shoe groupings](image)

How many shoes are NOT in a group of 2? ________
**Think** Make groups of 2 to tell if a number is even or odd.

A number is **even** if you make groups of 2 and have no leftovers.

There are no leftovers, so 6 is even.

A number is **odd** if you make groups of 2 and have 1 leftover.

There is 1 leftover, so 5 is odd.

**Think** Try making 2 equal groups to tell if a number is even or odd.

A number is **even** if you can make 2 equal groups.

Each group has the same number, so 6 is even.

A number is **odd** if you cannot make 2 equal groups.

Each group has a different number, so 5 is odd.

**Reflect** Work with a partner.

1. Is 9 an even or odd number? Why?
Let’s Explore the Idea  Tell if a number is even or odd.

Circle groups of 2. Then tell if the number is even or odd.

1. 2
   
   15 is ________________.

2. 3
   
   12 is ________________.

Show whether you can make 2 equal groups. Then tell if the number is even or odd.

3. 4
   
   14 is ________________.

4. 5
   
   11 is ________________.
Let’s Talk About It
Work with a partner.

6 Write a doubles fact for 8.
   _____ + _____ = 8

7 Write a doubles + 1 fact for 9.
   _____ + _____ + 1 = 9

8 Write these doubles or doubles + 1 facts.
   _____ + _____ = 10  _____ + _____ + 1 = 7
   _____ + _____ = 12  _____ + _____ + 1 = 15

9 Are sums of doubles odd or even numbers? Are sums of doubles + 1 odd or even numbers? Explain.

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Try It Another Way  Skip count by 2s to find even numbers.
You can skip count by 2s to find even numbers.

10 Skip count by 2s to finish this list. Stop at 20.
   2, 4, 6, _________________________

11 Numbers on your list in Problem 10 are even. Numbers less than 20 that are not on your list are odd.
   Circle the even numbers. Underline the odd numbers.
   11  14  16  17
Talk about these questions as a class. Then write your answers.

12 Evaluate Pat looks at this picture of 14 apples. He says that 14 is an odd number. Do you agree? Explain.

13 Analyze Ms. Lane’s class is in pairs. There are 9 pairs of students. There is also 1 student paired with Ms. Lane. How many students are in the class? Is the number even or odd? Explain.

14 Explain Mimi says that when she adds doubles, the sum is always even. It doesn’t matter if the doubles are odd or even numbers. Do you agree? Explain.
Put It Together  Use what you have learned to complete this task.

15 Use this table to answer the questions.

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**Part A** Color squares with odd numbers red. Color squares with even numbers blue. What patterns do you see in the numbers?

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**Part B** Look at 15. Is the ones digit odd or even? Is 15 odd or even?

________________________________________________________________________

**Part C** Look at 16. Is the ones digit odd or even? Is 16 odd or even?

________________________________________________________________________

**Part D** Amy says that if a two-digit number has an even number in the ones place, the number is also even. Is she correct? Why or why not?

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