Unit 8, Lesson 4

Decompose Even and Odd Numbers

Let's represent even and odd numbers.

Warm-up

Number Talk: Equal Addends

Find the value of each expression mentally.

- $6 + 6$

- $7 + 7$

- $7 + 8$

- $8 + 9$

Activity 1

Share in Different Ways

1. Kiran has 12 stickers. He wants to give them all to 2 friends. Show different ways Kiran can share the stickers.

   a. Can both friends get the same number of stickers?

   $12 = \_\_\_\_\_ + \_\_\_\_\_$

   b. Can both friends get an even number of stickers?

   $12 = \_\_\_\_\_ + \_\_\_\_\_$

   c. Can both friends get an odd number of stickers?

   $12 = \_\_\_\_\_ + \_\_\_\_\_$

   d. Can 1 friend get an even number of stickers and the other get an odd number?

   $12 = \_\_\_\_\_ + \_\_\_\_\_$

2. Lin has 14 stickers. She wants to give them all to 2 friends.

   a. Can both friends get the same number of stickers?

      $14 = \_\_\_\_\_ + \_\_\_\_\_$

   b. Can both friends get an even number of stickers?

      $14 = \_\_\_\_\_ + \_\_\_\_\_$

   c. Can both friends get an odd number of stickers?

      $14 = \_\_\_\_\_ + \_\_\_\_\_$

   d. Can 1 friend get an even number of stickers and the other get an odd number?

      $14 = \_\_\_\_\_ + \_\_\_\_\_$

3. Noah has 15 stickers. He wants to give them all to 2 friends.

   a. Can both friends get the same number of stickers?

      $15 = \_\_\_\_\_ + \_\_\_\_\_$

   b. Can both friends get an even number of stickers?

      $15 = \_\_\_\_\_ + \_\_\_\_\_$

   c. Can both friends get an odd number of stickers?

      $15 = \_\_\_\_\_ + \_\_\_\_\_$

   d. Can 1 friend get an even number of stickers and the other get an odd number?

      $15 = \_\_\_\_\_ + \_\_\_\_\_$

Activity 2

Represent Numbers with 2 Addends

1. Pick a number between 0 and 20.
2. Tell if your number is even or odd.
3. Complete the equation. Show your number as the sum of 2 equal addends. If you can't, use 2 addends that are as close as possible.
4. Repeat for all the numbers 0 to 20.

even	odd
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____
____ = ____ + ____	____ = ____ + ____

Section A Summary

We learned that groups of objects have either an even number or an odd number of items.

- An **even** number of objects can be split into 2 equal-size groups or into groups of 2 with no objects left over.
- An **odd** number of objects always has 1 object left over when you try to make 2 equal-size groups or groups of 2.

We also represented even numbers as equations with 2 equal addends.

Odd

$3 + 3 + 1 = 7$

Even

$4 + 4 = 8$