

Lesson 4: Decompose Even and Odd Numbers

Standards Alignments

Building On 2.OA.B.2
Addressing 2.OA.B.2, 2.OA.C.3

Teacher-facing Learning Goals

- Represent an even number as the sum of two equal addends.

Student-facing Learning Goals

- Let's represent even and odd numbers.

Lesson Purpose

The purpose of this lesson is for students to represent even numbers as the sum of two equal addends.

In previous lessons, students determined whether groups of objects and representations had an even or odd number of objects by creating 2 equal groups or pairing objects.

In this lesson, students explore patterns in the ways they can represent even and odd numbers as sums of two addends. In the first activity, they decompose even and odd numbers in different ways and notice that only the even numbers of objects could be decomposed into two equal addends. In the second activity, students practice decomposing numbers into two equal addends and verify that even numbers can be represented as a sum of two equal addends. They will continue to use expressions with equal addends to represent arrays in upcoming lessons and will relate multiplication expressions to addition expressions with equal addends in grade 3.

Throughout the lesson, it is important to emphasize that even numbers can be represented as a sum of two equal addends. Avoid communicating a misconception that odd numbers can not be represented as a sum of two equal addends. Students will learn that odd numbers cannot be represented as a sum of two equal whole numbers as they learn more about whole numbers and fractions in later grades.

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR5 (Activity 1)

Instructional Routines

Number Talk (Warm-up)

Materials to Gather

- Counters: Activity 1, Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

Throughout the year, students have practiced adding and subtracting within 20 to develop fluency. How did students leverage their fluency to decompose numbers into 2 equal addends?

Cool-down (to be completed at the end of the lesson)

 5 min

Two Equal Addends

Standards Alignments

Addressing 2.OA.C.3

Student-facing Task Statement

Decide whether the number of dots is even or odd. Circle your choice.

Write an equation with two equal addends for each image if you can.

- even or odd



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

2. even or odd



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

Student Responses

1. Even. $10 = 5 + 5$
2. Odd. You can't write an equal addend equation