

Lesson 6: Division as an Unknown Factor

Standards Alignments

Addressing 3.OA.A.2, 3.OA.B.6

Teacher-facing Learning Goals

- Explain the relationship between multiplication and division equations.
- Interpret division equations and multiplication equations with a missing factor.

Student-facing Learning Goals

- Let's connect division equations to multiplication equations.

Lesson Purpose

The purpose of this lesson is for students to relate multiplication and division and recognize division as an unknown factor problem.

Previously, students learned to interpret and write division expressions. They connected division to multiplication informally, recognizing that both operations involved equal groups. In this lesson, students analyze related multiplication and division equations to formalize the relationship between multiplication and division. In the lesson synthesis, students learn that the result in a division equation is called a **quotient**.

Access for:

Students with Disabilities

- Engagement (Activity 2)

English Learners

- MLR7 (Activity 1)

Instructional Routines

Notice and Wonder (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min

Teacher Reflection Question

In this lesson, students formally relate multiplication and division for the first time. How is their previous knowledge of multiplication and division supporting them in understanding this relationship?

Lesson Synthesis 10 min

Cool-down 5 min

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

 5 min

Boxed Muffins

Standards Alignments

Addressing 3.OA.B.6

Student-facing Task Statement

There are 30 muffins for the bake sale. Each box has 6 muffins. How many boxes are there?

Tyler wrote two equations for this problem.

$$\underline{\hspace{2cm}} \times 6 = 30$$

$$30 \div 6 = \underline{\hspace{2cm}}$$

He says the same number goes in each blank even though one equation is a multiplication equation and the other equation is a division equation. Is he correct? Explain or show your reasoning.

Student Responses

Tyler is right. Sample response: Five goes in both blanks because it is the number of boxes, we just write it in different places for multiplication equations and division equations.