Lesson 15: An Assortment of Fractions

Standards Alignments

Building On   4.NF.A.1, 4.NF.B.3.c, 4.NF.B.3.d, 4.NF.B.4
Addressing   4.NF.A.1, 4.NF.A.2, 4.NF.B.3.d
Building Towards   4.NF.C.5

Teacher-facing Learning Goals

- Use equivalence to reason about addition and subtraction problems.

Student-facing Learning Goals

- Let's find the heights of some stacked objects.

Lesson Purpose

The purpose of this lesson is for students to use equivalence to reason about problems that involve combining or removing fractional amounts.

In a previous unit, students learned to recognize and generate equivalent fractions. Earlier in this unit, they learned to add and subtract fractions with the same denominator, seeing these operations as joining and separating parts of the same whole. In this lesson, students encounter situations that involve combining and removing fractions with different denominators (limited to 2, 3, 4, 6, and 8), prompting them to rely on their understanding about equivalence to reason about the problems. This work prepares students to use equivalent fractions to join tenths and hundredths in upcoming lessons.

Students are not expected to reason symbolically, or to write fractional expressions with different denominators and then rewrite them with a common denominator. Instead, they reason using their intuitive understanding of equivalence, which they have begun to build since grade 3, and with the support of visual representations as needed.

Access for:

⊕ Students with Disabilities

- Engagement (Activity 1)

🌐 English Learners

- MLR1 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Lesson Timeline

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

Teacher Reflection Question

How did the activities in today's lesson prepare students to add tenths and hundredths in the next lesson? How will you connect the ideas around equivalent fractions to upcoming work?

Cool-down (to be completed at the end of the lesson) 🕐 5 min

Which Stack is Taller?

Standards Alignments

Addressing   4.NF.A.1, 4.NF.A.2, 4.NF.B.3.d

Student-facing Task Statement

Which stack of foam blocks is taller:

- Two $\frac{1}{3}$-foot blocks and one $\frac{1}{6}$-foot block, or

- One $\frac{1}{2}$-foot block and two $\frac{1}{6}$-foot blocks?

Explain or show your reasoning.

Student Responses

They are the same height. Sample reasoning: First stack: $2 \times \frac{1}{3} = \frac{2}{3}$, which is equivalent to $\frac{4}{6}$. Adding another $\frac{1}{6}$ makes $\frac{5}{6}$. Second stack: $\frac{1}{2}$ is equivalent to $\frac{3}{6}$. Adding another $\frac{2}{6}$ makes $\frac{5}{6}$.