Lesson 9: Expliquemos la equivalencia

Standards Alignments

Building On   3.OA.B.5
Addressing   4.NF.A.1
Building Towards   4.NBT.B.5

Teacher-facing Learning Goals

- Determine if given fractions are equivalent in a way that makes sense to them.
- Given a pair of equivalent fractions, explain why they are equivalent.

Student-facing Learning Goals

- Hablemos sobre cómo sabemos si dos fracciones son equivalentes.

Lesson Purpose

The purpose of this lesson is for students to determine if two fractions are equivalent, and if they are, explain why they are equivalent.

In earlier lessons, students developed their ability to use different representations and strategies to reason about equivalence and generate equivalent fractions. This lesson enables them to consolidate the work so far and communicate their understanding conceptually, before they move on to reason about equivalent fractions numerically in the next lesson.

Students work with some fractions in the hundredths. Although students might try to partition a number line into 100 parts, they are not expected to do so. The idea is to motivate students to look for another way—one that is less tedious and more general—to generate equivalent fractions.

Access for:

♿ Students with Disabilities

- Engagement (Activity 1)

🌐 English Learners

- MLR8 (Activity 2)

Instructional Routines

MLR1 Stronger and Clearer Each Time (Activity 1), Number Talk (Warm-up)

Materials to Gather

- Rulers or straightedges: Activity 1

Materials to Copy

- How Do You Know (groups of 15): Activity 2

- Sticky notes: 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

This lesson centers on explanations for equivalence. What representations and strategies did most students rely on to justify equivalence? What aspects of the explanation was manageable for them? What was more challenging than anticipated?

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

Ser o no ser (equivalente)

Standards Alignments

Addressing   4.NF.A.1

Student-facing Task Statement

1. Explica o muestra por qué esta afirmación es verdadera: $\frac{5}{4}$ es equivalente a $\frac{15}{12}$. Si te ayuda, usa una recta numérica.

       |————————————————|
       0
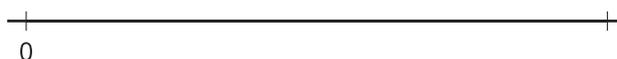
2. Diego escribió que $\frac{11}{5}$ y $\frac{55}{10}$ son fracciones equivalentes. ¿Son equivalentes esas fracciones? Explica o muestra cómo lo sabes. Si te ayuda, usa una recta numérica.

       |————————————————|
       0
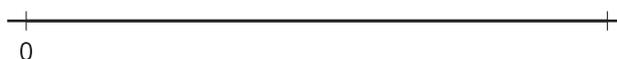
Student Responses

Students may use number lines to show their reasoning. Sample responses:

1. If I split each fourth into 3 equal parts, then I can see that $3 \times 5 = 15$.
2. No. Sample reasoning: One fifth can be partitioned into 2 parts to get tenths, so 11 fifths has 11×2 or 22 tenths, not 55 tenths.