



Decimal Equivalents to Common Fractions

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Overview:

A specific need that was shared during the teacher externship experience was new hires' unfamiliarity with decimal equivalents to common fractions. In this lesson, students will gain experience converting decimals to fractions and fractions to decimals.

Featured Externship Business:

[FWD Seagrave Fire Apparatus](#)

Subject:

Mathematics

Grade Level(s):

6-8

Learning objectives:

After doing this activity, students should be able to:

- convert between decimals and common fractions

Workplace Readiness Skill:

- | | |
|--|---|
| <input type="checkbox"/> Social Skills | <input checked="" type="checkbox"/> Communication |
| <input checked="" type="checkbox"/> Teamwork | <input checked="" type="checkbox"/> Critical Thinking |
| <input type="checkbox"/> Attitude and Initiative | <input type="checkbox"/> Media Etiquette |
| <input type="checkbox"/> Professionalism | <input type="checkbox"/> Planning and Organization |

Type of Activity

- x Individual
- x Small Group
- x Whole class

Common Core State Standards for Mathematical Practice:

CCSS.MATH.CONTENT.4.NF.A.2-Compare two fractions with different numerators and different denominators

CCSS.MATH.CONTENT.4.NF.B.3-Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$

Time: 30-35 min

Materials:

- Calculators

Directions:

1. Warm-up: Have students write at least 3 different math equations using only these three numbers, 1, 4, .25. Look for a response like this: $1 \div 4 = .25$.
2. Be sure to discuss, as a class that a fraction bar means division (and the correct order)!
3. As a class, or in small groups, verify several fractions and what their decimal equivalents are using calculator(s).
4. Discuss, as a class, how half of a half is a quarter; half of a quarter is an eighth, half of an eighth is a sixteenth.
5. Discuss, as a class, that half of a whole is .5, half of .5 is .25, half of .25 is .125 and half of .125 is .0625. You may use the concept of money to help understand this concept.
6. Now, list the fractions, $1/16$, $1/8$, $3/16$, $1/4$, $5/16$, $3/8$, $7/16$, $1/2$, $9/16$, $5/8$, $11/16$, $3/4$, $13/16$, $7/8$, and $15/16$ on the smartboard in a random order and ask the students in small groups (or partners) to list them in order. (As they work on listing them, allow use of calculators).
7. Circulate the room, giving guidance where needed.
8. Each group that has the fractions in correct order, ask them to now give the equivalent decimal for each fraction (give both the complete decimal and the decimal rounded to the nearest hundredth, where appropriate).

Wrap-up:

As a class discussion or as a writing assignment, students will describe different patterns in the fractions and decimals. Furthermore, they will discuss/explain how they could use this to remember which decimal matches with each fraction.

Extension Activity:

Research manufacturing jobs in the area and the type of measuring devices used for different jobs.

Video supplements can be found on Khan Academy, i.e. Rewriting Fractions as Decimals video at <https://youtu.be/4LvGU1a9Z5Q> or entire Rewrite fractions as decimals plan at https://www.khanacademy.org/math/arithmetic/arith-decimals/arith-review-decimals-to-fractions/e/converting_fractions_to_decimals_0.5



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