

Fractions

Big Ideas in Grades 3-5 Mathematics

- Fractions are a number that represents an amount or quantity.
- Fractions can represent parts of a region/area, set or linear model.
- Fractional parts are equal shares or equal-sized portions of a whole or unit – often called partitioning and equipartitioning.
- A fraction is not meaningful without knowing what the whole is.
- Fractional parts have special names that tell how many parts of that size are needed to make the whole.
- The more fractional parts used to make a whole, the smaller the parts.
- The denominator of a fraction indicates by what number of equal parts the whole has been divided into. The numerator tells the number of parts.
- A unit fraction a fraction with a numerator of one.
- Two equivalent fractions are two ways to represent the same amount (having the same whole).
- Benchmark fractions (ie. $\frac{1}{2}$) help us to compare, order and estimate fractions.
- Renaming fractions (ie. with common denominators) allows us to compare fractions.
- Context influences the interpretation of fractions – as a part-whole relationship, measure, ratio, quotient, operator

Apps

Math Tappers: Estimate Fractions (iPhone app)

Motion Math HD: Fractions!

Equivalent Fractions by NCTM

NCTM Web Applets

Equivalent Fractions, NCTM Illuminations

<http://illuminations.nctm.org/Activity.aspx?id=3510>

Fraction Game, NCTM Illuminations

<http://illuminations.nctm.org/Activity.aspx?id=4148>

Resources

Uncomplicating Fractions to Meet Common Core Standards in Math, K-7
by Marian Small

Putting Essential Understanding of Fractions into Practice 3-5 by
Kathryn Chval, NCTM

Beyond Pizzas and Pies: 10 Essential Strategies for Supporting Fraction
Sense, Grades 3-5 by Julie McNamara and Meghan M. Shaughnessy

Number Talks: Fractions, Decimals, and Percentages by Sherry Parrish
and Ann Dominick

Fraction Talks

<http://www.fractiontalks.com>

Clothesline Math

<https://clotheslinemath.com>

Rational Number Project

<http://www.cehd.umn.edu/ci/rationalnumberproject/rnp2.html>

Do the Math Kits (available through DRC)

Fractions A: Basic Concepts

Fractions B: Equivalence and Comparison