

HALF Learning Objectives

Objective #1: Students understand fractions as parts of unit wholes.

Measurable skills that demonstrate progress towards mastery of Objective #1:

- a) Partitioning whole objects into fractional parts.
- b) Providing the word name for common fractions (e.g. one-fourth, two-sixths).
- c) Choosing the correct fractional part given the whole.
- d) Choosing the correct whole given a fractional part.
- e) Constructing models of fractions using manipulatives.
- f) Representing fractions using symbolic notation (e.g. $\frac{1}{4}$, $\frac{2}{6}$)

Extension activities: word problems, partitioning a number line, representing common fractions on the number line.

Objective #2: Students can judge the size of fractions and generate equivalent forms of commonly used fractions.

Measurable skills that demonstrate progress towards mastery of Objective #2:

- a) Demonstrating the meaning of equivalence using models.
- b) Recognizing and generating equivalent fractions.
- c) Comparing fractions with like and unlike numerators and denominators, and recording the results of comparisons with symbols ($<$, $>$, $=$).
- d) Using benchmark fractions (0, $\frac{1}{2}$, 1) to compare fractions.
- e) Ordering fractions.

Extension activities: word problems, ordering fractions on the number line, demonstrating understanding of equivalence using the number line.

Objective #3: Students understand fractions as parts of a collection.

Measurable skills that demonstrate progress towards mastery of Objective #3:

- a) Partitioning groups of objects into fractional parts.
- b) Using the context of a word problem to decide the appropriate model to use to represent a fraction.

Objective #4: Students can express whole numbers as fractions and have an understanding of fractions greater than one.

Measurable skills that demonstrate progress towards mastery of Objective #4:

- a) Modeling fractions equal to whole numbers.
- b) Modeling fractions greater than one.
- c) Representing fractions greater than one using mixed numbers and improper fraction notation.
- d) Comparing mixed numbers and improper fractions.
- e) Ordering groups of fractions that include fractions equal to whole numbers and fractions greater than one.

Extension activities: word problems, representing mixed numbers and improper fractions on the number line, ordering mixed numbers and improper fractions on the number line.

Objective #5: Students can estimate computations involving fractions and can add and subtract fractions using models.

Measurable skills that demonstrate progress towards mastery of Objective #5:

- a) Estimating the sum of two or more fractions.
- b) Estimating the difference of two fractions.
- c) Using manipulatives to add and subtract fractions.
- d) Using manipulatives to solve division problems that include a fraction in the quotient (e.g. $5 \div 3 = 1\frac{2}{3}$).

Extension activities: word problems, modeling addition and subtraction of fractions on the number line, modeling division problems that include a fraction in the quotient on the number line.