

Before This Module

Grade 4 Module 4

In grade 4 module 4, students build conceptual understanding of fractions by partitioning and shading area models. They learn that fractions can be decomposed into parts in the same manner as whole numbers. Students use area models to make equivalent fractions and show the renaming numerically. By applying an understanding of equivalent fractions, students learn to compare fractions by creating a common numerator or a common denominator.

Overview

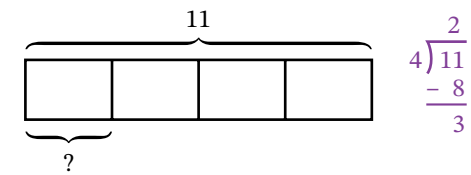
Addition and Subtraction with Fractions

Topic A

Fractions and Division

Students use equal sharing to understand a fraction as the result of dividing the numerator by the denominator. They use models and vertical form to divide and represent remainders as fractions. Then students solve word problems involving division.

Mr. Evans pours 11 liters of water equally into 4 containers. How many liters of water are in 1 container?



$$11 \div 4 = 2\frac{3}{4}$$

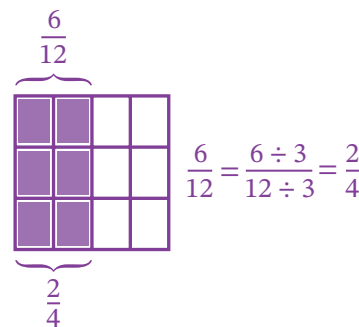
There are $2\frac{3}{4}$ liters of water in 1 container.

Topic B

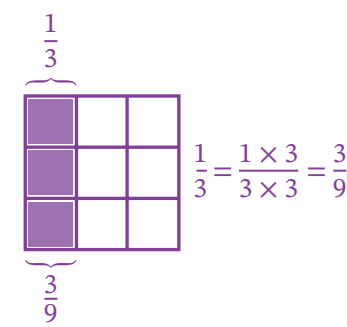
Addition and Subtraction of Fractions by Making Like Units

Students use models and equations to make like units before they add and subtract fractions. They analyze expressions to determine whether the units in fractions are related or unrelated, which indicates whether one or more fractions must be renamed to make like units.

$$\frac{3}{4} + \frac{6}{12} = \frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$



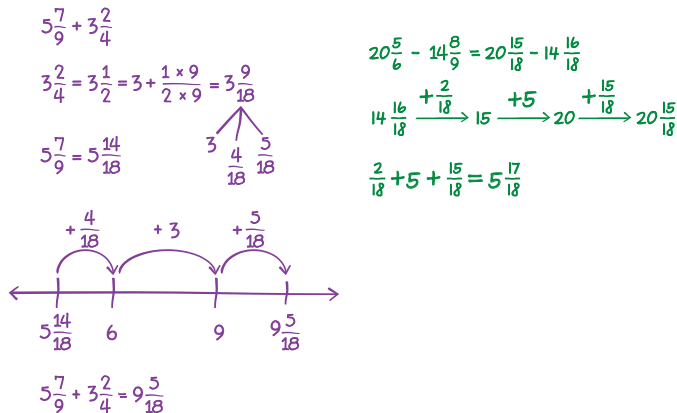
$$\frac{7}{9} - \frac{1}{3} = \frac{7}{9} - \frac{3}{9} = \frac{4}{9}$$



Topic C

Addition and Subtraction of Fractions, Whole Numbers, and Mixed Numbers

Students apply knowledge of addition and subtraction of whole numbers to help them add and subtract mixed numbers. They use familiar models such as a number bond, a number line, and the arrow way to show their thinking.

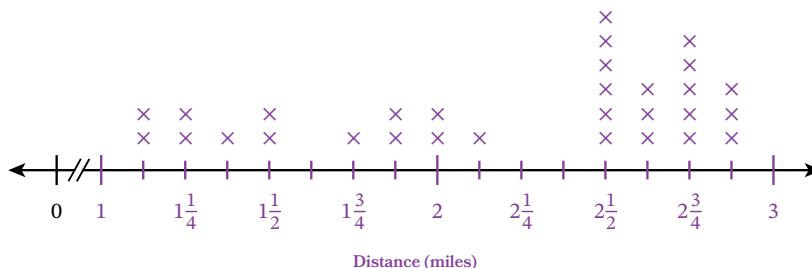


Topic D

Problem Solving and Line Plots with Fractional Measurements

Students create line plots from a given set of data. They consider all data points to decide how much of the number line should be shown and how to label the number line to present the data so it can be easily read, analyzed, and understood. Students find the sum of measurements in the data set and use models to equally redistribute the sum among all data points.

Distances Walked by Miss Song



After This Module

Grade 5 Module 3

The study of fractions continues in grade 5 module 3 when students learn to multiply with fractions and divide with whole numbers and unit fractions. Students apply what they know about addition of fractions to make sense of multiplication of fractions and to check their answers.