Important Concepts	Examples
Fractions as Parts of a Whole In the part–whole interpretation of fractions, students should determine what the whole is, divide the whole into equal-size parts (that are not necessarily the same shape), recognize the number of parts they need to represent the situation, and form a fraction by placing the parts needed over the number of parts into which they have divided the whole.	If there are 24 students in the class and 16 are girls, then you can represent the part of the whole that is girls as $\frac{16}{24}$. You can also represent $\frac{16}{24}$ as $\frac{2}{3}$. The denominator 3 tells into how many equal-size parts the whole has been divided, and the numerator 2 tells how many of the equal-size parts have been shaded.
Fractions as Measures or Quantities In this interpretation, students think of fractions as numbers.	A fraction can be a measurement that is "in between" two whole measures. Students see this every day in references such as $2\frac{1}{2}$ brownies or $7\frac{3}{4}$ inches.
Fractions as Decimals Students need to understand decimals in two ways: as special fractions with denominators of 10 and powers of 10, and as a natural extension of the place-value system for representing quantities less than 1.	For example, to find the decimal representation of the fraction $\frac{2}{5}$, rewrite it with a power of 10 in the denominator. $\frac{2}{5} = \frac{4}{10}$ The fraction has tenths in the denominator, so the decimal equivalent places the 4 in the tenths place. $\frac{4}{10} = 0.4$
Ratio Students build understanding of ratios as comparisons of numbers. Students express ratios in different ways: with the language of *for every,* using the word *to,* with colon notation (*a : b*), and using the word *per*.	When you say that $\frac{1}{6}$ of a school is sixth graders, strictly speaking, this is not a number but a ratio. It compares a part to the whole: *for every* 6 students, 1 is a sixth grader. The ratio of the sixth-grade fundraising goal *to* the seventh-grade fundraising goal is 60 : 90. Mary runs at 5 miles *per* hour.
Unit Rate A unit rate is a comparison in which one of the numbers being compared is 1 unit. You can use unit rates to calculate equivalent ratios.	Finn runs 10 miles in 2 hours. Finn runs 2.5 miles in a half hour (or 30 minutes). Finn runs 1 mile in $\frac{1}{5}$ hour (or 12 minutes). The statement *Finn runs 1 mile in 12 minutes* expresses a unit rate.
Rate Table Rate tables are a way to express equivalent ratios. For example, if you know that 1 ounce of popcorn kernels yields 4 cups of popped corn, you can use a rate table to calculate other amounts.	**Cups of Popcorn From Ounces of Kernels** **Number of Cups of Popcorn**: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48 **Number of Ounces of Popcorn Kernels**: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12