Unit 1
Ratios and Proportional Relationships

Grade 6
Math

Description:

During this unit, students examine the concept of ratio and rate. They use ratio language and ratio notation to describe the relationship between two quantities. Students use tables to find equivalent ratios, plot pairs of values on the coordinate plane and compare ratios. Students use ratio and rate reasoning to solve real-world problems including converting measurement units and finding percent of a quantity.

Louisiana Student Standards for Mathematics (LSSM)

Ratios and Proportional Relationships	
Understand ratio concepts and use ratio reasoning to solve problems.	
6.RP.A.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
6.RP.A.2	Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*

6.RP.A.3	Use ratio and rate reasoning to solve real-world and mathematical problems, *e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.*
	  a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
	  b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

	c. Find a percent of a quantity as a rate per 100 *(e.g., 30% of a quantity means 30/100 times the quantity)*; solve problems involving finding the whole, given a part and the percent. d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Enduring Understandings:

- Ratio and rate language is used to describe a relationship between two quantities (including unit rates.)
- Ratio and rate reasoning can be applied to many different types of mathematical and real-life problems

Essential Questions:

- How can you use mathematics to describe, change and model real-world situations?
- When is it useful to be able to relate one quantity to another?
- How are ratios and rates similar and different?
- How do you use unit rates in the real world?