

**SAU 50
Grade 6
Mathematics
Ratios and Proportional Relationships**

Ratios: showing the relationship between two amounts.

Proportional Relationships: the comparison of two equal ratios.

SAU 50 District Competency:

Students will independently use their learning to make use of structure (mathematical concepts, ideas, and patterns) to describe and compare relationships.

Essential Questions

- When is it useful to be able to relate one quantity to another?
- Why are ratios and proportions important and how are they used in the real world?

Acquisition

Students will demonstrate the following to meet the standards.

- I can write ratios based on real world situations.
- I can solve unit rate problems that involve unit pricing and constant speed.
- I can identify and calculate a unit rate.
- I can use ratio reasoning to convert measurement units (centimeters to meters, quarts to gallons) before applying them to a situation that requires multiplication or division.
- I can solve ratio real-world and mathematical problems by using diagrams.
- I can solve real world problems involving finding the percent of a number.
- I can solve real-world problems involving finding the whole, given a part and a percent.

Standards

NH College and Career Ready Standards

Key to Standard Notation:

6.RP.1: 6 (grade level) **RP** (domain: Ratios and Proportional Relationships) **1** (number of the standard)

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

6.RP.1: Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

6.RP.2: Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

6.RP.3: Use ratio and rate reasoning to solve real-world and mathematical problems, by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6.RP.3.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.

6.RP.3.b: Solve unit rate problems including those involving unit pricing and constant speed.

6.RP.3.c: Find a percent of a quantity as a rate per 100; solve problems involving finding the whole, given a part and the percent.

6.RP.3.d: Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

[New Hampshire College and Career Ready Standards](#)

References:

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core Standards for Mathematics* (United States, National Governors Association Center for Best Practices, Council of Chief State School Officers). Retrieved August 10, 2016, from http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf

Math is fun/definitions. (n.d.). Retrieved April 17, 2017, from <http://www.mathisfun.com/definitions>