Sixth Grade Unit 2 – Ratios and Proportional Reasoning

Focus for Unit 2 - Understand the distinction between additive thinking and multiplicative thinking. Understand that ratio is a comparison of two numbers or quantities. Use percents for solving rates and proportions by engaging in problem solving

- 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.”
- 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.
- 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
- 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.
- 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?)
- 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.
- Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Supporting Your Child

■ Always Talk About Math in Positive Ways

Let your child know that learning math is very important. Communicating a positive, can-do attitude about math is the single most important way for you to ensure that your child is successful in mathematics.

■ Know What Your Child Is Studying in Math

Be aware of the math your child is learning each year and know the standards they’re required to meet. The standards for this unit are listed above. Ask you child what they’re studying in math class, regularly check in with them about math homework.

■ Make Math an Everyday Part of Your Family

Find math at home. Involve your child in activities like shopping, cooking, and home fix-it projects to show them that math is practical and useful. Encourage your child to solve problems that involve math. Engage your child in conversations about what they’re thinking about when they solve math problems. Find opportunities to explore math together.

■ Notice Mathematics in the World

You can help your child see the usefulness of mathematics by pointing it out wherever you see it. Tell your child about the math you do in your job and why it’s important.

Vocabulary

Equal: exactly the same amount or value
Quantity: how much there is of something
Compute: to determine or calculate
Interpret: making sense of, explanation
Equation: a number sentence that says two things are equal
Ratio: showing the relative sizes of two or more values
Rate: a ratio that compares two quantities of different units
Unit Rate: the ratio of two measurements in which the second term is 1
Equivalent Ratios: two ratios that have the same value when simplified
Unit Pricing: identification of and labeling of items for sale with the retail price per unit, permitting easier price comparisons among similar products in different sized containers
Relationship: the way in which two or more concepts or objects are connected