

Unit 1 - Ratios and Proportional Relationships

Content Area: **Mathematics**
Course(s):
Time Period: **September**
Length: **6-8 weeks**
Status: **Published**

Unit Overview

This unit focuses on the Ratios and Proportional Relationships (RP) domain.

Essential Questions

"How do you use equivalent rates in the real world?"

"When is it better to use a fraction, a decimal, or a percent?"

Content

Unit rates

Ratio tables

Ordered pairs

Equivalent ratios

Decimals, fractions, and mixed numbers

Percents as fractions

Percents as decimals

Skills

Use ratio and rate reasoning to solve real-world and mathematical problems

Solve unit rate problems including those involving unit pricing and constant speed.

Use tables to compare ratios.

Solve unit rate problems including those involving unit pricing and constant speed.

Use ratio tables to represent and solve problems involving equivalent ratios

Graph ordered pairs in ratio tables to solve problems

Determine if two ratios are equivalent

Solve problems using ratios and rates

Write decimals as fractions or mixed numbers and vice versa

Write percents as fractions and vice versa

Write percents as decimals and decimals as percents

Write percents greater than 100% and percents less than 1% as fractions and as decimals, and vice versa

Compare and order fractions, decimals, and percents

Estimate the percent of a number

Find the percent of a number

Solve percent problems involving finding the whole or part

Assessments

Self-Check Quiz

Chapter Tests

Online Standardized Test Practice

Chapter Project

Teacher Observation

Lessons/Learning Scenarios

Glencoe Math Course 1 Text

Chapter 1: Ratios and Rates (14 Days)

Lesson 1: Factors and Multiples (1 Day)

SWBAT find the GCF and LCM

Lesson 2: Ratios (2 Day)

SWBAT express ratios and rates as fractions

Inquiry Lab: Unit Rates (1 Day)

SWBAT explore rates using models

Lesson 3: Rates (2 Days)

SWBAT determine unit rates

Lesson 4: Ratio Tables (2 Days)

SWBAT use ratio tables to represent and solve problems involving equivalent ratios

Lesson 5: Graph Ratio Tables (2 Day)

SWBAT graph ordered pairs in ratio tables to solve problems

Lesson 6: Equivalent Ratios (2 Days)

SWBAT determine if two ratios are equivalent

Inquiry Lab: Ratio and Rate Problems (1 Day)

SWBAT explore solving ratio and rate problems using bar diagrams

Lesson 7: Ratio and Rate Problems (1 Day)

SWBAT solve problems using ratios and rates

Chapter 2: Fractions, Decimals, and Percents (14 Days)

Lesson 1: Decimals and Fractions (2 Days)

SWBAT write decimals as fractions or mixed numbers and vice versa

Inquiry Lab: Model Percents (1 Day)

SWBAT use models to illustrate the meaning of percents

Lesson 2: Percents and Fractions (2 Days)

SWBAT write percents as fractions and vice versa

Lesson 3: Percents and Decimals (1 Day)

SWBAT write percents as decimals and decimals as percents

Lesson 4: Percents Greater Than 100% and Percents Less Than 1% (1 Day)

SWBAT write percents greater than 100% and percents less than 1% as fractions and as decimals, and vice versa

Problem-Solving Investigations: Solve a Simpler Problem (1 Day)

SWBAT solve problems by solving a simpler problem

Lesson 5: Compare and Order Fractions, Decimals, and Percents (2 Days)

SWBAT compare and order fractions, decimals, and percents

Lesson 6: Estimate with Percents (1 Days)

SWBAT estimate the percent of a number

Inquiry Lab: Percent of a Number (1 Day)

SWBAT use percents to solve problems

Lesson 7: Percent of a Number (1 Day)

SWBAT find the percent of a number

Lesson 8: Solve Percent Problems (1 Day)

SWBAT solve percent problems involving find the whole or part

Standards

CCSS.Math.Content.6.RP.A.1	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
CCSS.Math.Content.6.RP.A.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.
CCSS.Math.Content.6.RP.A.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.
CCSS.Math.Content.6.RP.A.3.b	Solve unit rate problems including those involving unit pricing and constant speed.
CCSS.Math.Content.6.RP.A.3.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.
CCSS.Math.Content.6.NS.B.4	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor.

Resources

Glencoe Math, Course 1, McGraw-Hill, 2013

Number Lines Master

red and yellow counters
Integer Counters Master
Integer Mat Master

First Quadrant Grid Master

10 × 10 grids

beans or other small objects

Centimeter Grid Master

Ratios and Rates Videos

[Study Jams GCF](#)

[Study Jams LCM](#)

[StudyJams Ratios](#)

[StudyJams Rates](#)

[StudyJams Decimal, Fraction, & Percent Equivalents](#)

[StudyJams Percents](#)

[Learn Zillion Represent a common fraction as a percent](#)

[Learn Zillion Find the part when the percent and total are known](#)

[Learn Zillion Find the total when the percent and part are known](#)

[StudyJams Customary Units of Length](#)