

Unit 2 - The Number System

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

Unit Overview

The unit focuses on the Number System (NS) domain.

Essential Questions

“How can mathematical ideas be represented?”

“How can estimating be helpful?”

“What does it mean to multiply and divide fractions?”

"How are integers and absolute value used in real world situations?"

Content

Add, Subtract, Multiply, and Divide Decimals

Estimate Products and Quotients

Multiply Fractions and Whole Numbers

Convert Measurement Units

Divide Whole Numbers by Fractions

Integers and Graphing

Absolute Value

Compare and Order Integers

Terminating and Repeating Decimals

Compare and Order Rational Numbers

The Coordinate Plane

Graph on the Coordinate Plane

Skills

Add and subtract decimals

Estimate the product of decimals and judge the reasonableness of the results

Estimate and find products of decimals and whole numbers

Multiply decimals by decimals

Find quotients of problems involving multi-digit divisors

Estimate the quotients of decimals and judge the reasonableness of the results

Divide decimals by whole numbers

Divide decimals by decimals

Estimate products of fractions

Multiply and divide fractions and whole numbers

Multiply and divide fractions

Multiply and divide mixed numbers

Change units of measure in the customary system

Use integers to represent real-world situations

Find the absolute value of an integer

Compare and order integers

Express positive and negative fractions as decimals

Locate ordered pairs

Graph ordered pairs

Assessments

Self-Check Quiz

Chapter Tests

Online Standardized Test Practice

Chapter Project

Teacher Observation

Lessons/Learning Scenarios

Glencoe Math Course 1 Text

Chapter 3: Compute with Multi-Digit Numbers (14 Days)

Lesson 1: Add and Subtract Decimals (2 Days)

SWBAT add and subtract decimals

Lesson 2: Estimate Products (1 Day)

SWBAT estimate the product of decimals and judge the reasonableness of the results

Lesson 3: Multiply Decimals by Whole Numbers (2 Days)

SWBAT estimate and find products of decimals and whole numbers

Lesson 4: Multiply Decimals by Decimals (1 Day)

SWBAT multiply decimals by decimals

Inquiry Lab: Multiply by Powers of 10 (1 Day)

SWBAT multiply decimals by powers of 10

Lesson 5: Divide Multi-Digit Numbers (2 Day)

SWBAT find quotients of problems involving multi-digit divisors

Lesson 6: Estimate Quotients (1 Day)

SWBAT estimate the quotients of decimals and judge the reasonableness of the results

Lesson 7: Divide Decimals by Whole Numbers (2 Days)

SWBAT divide decimals by whole numbers

Lesson 8: Divide Decimals by Decimals (2 Day)

SWBAT divide decimals by decimals

Chapter 4: Multiply and Divide Fractions (15 Days)

Lesson 1: Estimate Products of Fractions (1 Day)

SWBAT estimate products of fractions

Lesson 2: Multiply Fractions and Whole Numbers (1 Days)

SWBAT multiply fractions and whole numbers

Lesson 3: Multiply Fractions (2 Days)

SWBAT multiply fractions

Lesson 4: Multiply Mixed Numbers (1 Day)

SWBAT multiply mixed numbers

Lesson 5: Convert Measurement Units (2 Days)

SWBAT change units of measure in the customary system

Problem-Solving Investigation: Draw a Diagram (1 Day)

SWBAT solve problems by drawing a diagram

Inquiry Lab: Divide Whole Numbers by Fractions (1 Day)

SWBAT divide whole numbers by fractions

Lesson 6: Divide Whole Numbers by Fractions (1 Days)

SWBAT divide whole numbers by fractions

Inquiry Lab: Divide Fractions (1 Day)

SWBAT divide fractions using models

Lesson 7: Divide Fractions (2 Days)

SWBAT divide fractions

Lesson 8: Divide Mixed Numbers (2 Days)

SWBAT divide mixed numbers

Chapter 5: Integers and the Coordinate Plane (14 Days)

Inquiry Lab: Integers (1 Day)

SWBAT use counters to represent integers

Lesson 1: Integers and Graphing (1 Day)

SWBAT use integers to represent real-world situations

Inquiry Lab: Absolute Value (1 Day)

SWBAT use a number line to explore the absolute value of an integer

Lesson 2: Absolute Value (1 Day)

SWBAT find the absolute value of an integer

Lesson 3: Compare and Order Integers (2 Days)

SWBAT compare and order integers

Problem-Solving Investigation: Work Backward (1 Day)

SWBAT solve problems by using the work backward strategy

Inquiry Lab: Number Lines (1 Day)

SWBAT model rational numbers

Lesson 4: Terminating and Repeating Decimals (2 Days)

SWBAT express positive and negative fractions as a decimal

Lesson 5: Compare and Order Rational Decimals (1 Day)

SWBAT compare and order rational numbers

Lesson 6: The Coordinate Plane (1 Day)

SWBAT locate ordered pairs

Lesson 7: Graph on the Coordinate Plane (1 Day)

SWBAT graph ordered pairs

Inquiry Lab: Find Distance on the Coordinate Plane (1 Day)

SWBAT find the distance between two points with the same first coordinate or the same second coordinate on a coordinate plane

Standards

CCSS.Math.Content.6.NS.A.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.
CCSS.Math.Content.6.NS.B.2	Fluently divide multi-digit numbers using the standard algorithm.
CCSS.Math.Content.6.NS.B.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
CCSS.Math.Content.6.NS.C.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
CCSS.Math.Content.6.NS.C.6.a	Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself,

e.g., $-(-3) = 3$, and that 0 is its own opposite.

CCSS.Math.Content.6.NS.C.6.b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
CCSS.Math.Content.6.NS.C.6.c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
CCSS.Math.Content.6.NS.C.7.a	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram.
CCSS.Math.Content.6.NS.C.7.b	Write, interpret, and explain statements of order for rational numbers in real-world contexts.
CCSS.Math.Content.6.NS.C.7.c	Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.
CCSS.Math.Content.6.NS.C.7.d	Distinguish comparisons of absolute value from statements about order.
CCSS.Math.Content.6.NS.C.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
CCSS.Math.Content.6.RP.A.3.d	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Resources

Glencoe Math, Course 1, McGraw-Hill, 2013

Number Lines Master

Integer Mat Master

Coordinate Planes Master

Numerical Expressions and Factors

[Click on Response to Intervention/Lesson Tutorials](#)

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Fractions/Decimals Videos

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Integers and Coordinate Plane Videos

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