

Mastering Whole Number Multiplication

Lesson 1: Multiplying Whole Numbers

Lesson Objective: Students will learn to effectively multiply whole numbers, ensuring they understand the core concept of multiplication and can perform it accurately.

Lesson 2: Applying Multiplication in Real-World Scenarios

Lesson Objective: In this lesson, students will apply their multiplication skills to solve real-world problems. They will learn how to use multiplication to solve word problems, enhancing their problem-solving capabilities.

Mastering Whole Number Division

Lesson 3: Understanding Divisibility Rules and Patterns

Lesson Objective: Students will learn divisibility rules and patterns, enabling them to identify when a number is divisible by another. This lesson provides a strong foundation for division concepts.

Lesson 4: Dividing Whole Numbers with 2-Digit and 3-Digit Divisors

Lesson Objective: In this lesson, students will apply their understanding of divisibility rules to perform division with 2-digit and 3-digit divisors. They will also work on word problems to apply their division skills in real-life scenarios.

Exploring Exponents

Lesson 5: Introduction to Exponents and Multiplication Expressions

Lesson Objective: Students will learn the basics of exponents and how to write multiplication expressions using exponents. They will understand the significance of exponents in simplifying repeated multiplication.



Lesson 6: Evaluating Powers and Powers of Ten

Lesson Objective: In this lesson, students will learn how to evaluate powers and work with powers of ten. They will develop the skills to solve problems involving powers and recognize their applications.

Lesson 7: Advanced Exponents: Decimal and Fractional Bases

Lesson Objective: Building on their previous knowledge, students will explore exponents with decimal and fractional bases. This lesson challenges them to apply the concept of exponents to more complex numbers and develop a deeper understanding of this mathematical concept.

Exploring Number Theory

Lesson 8: Prime and Composite Numbers

Lesson Objective: Understand the concept of prime and composite numbers and learn how to identify them.

Lesson 9: Factors and Factor Pairs

Lesson Objective: Explore factors, find all the factor pairs of a number, and understand their significance in number theory.

Lesson 10: Prime Factorization

Lesson Objective: Learn how to perform prime factorization and express numbers in terms of their prime factors.

Lesson 11: Greatest Common Factor

Lesson Objective: Explore the concepts of greatest common factor (GCF), and solve problems involving these concepts.

Lesson 12: Least Common Multiple



Lesson Objective: Explore the concepts of least common multiple (LCM), and solve problems involving these concepts.

Lesson 13: GCF and LCM: word problems

Lesson Objective: Explore the concepts of LCM, and HCF through word problems

Fractions and Decimals Mastery

Lesson 14: Simplifying Fractions and Mixed Numbers

Lesson Objective: Learn to simplify fractions to their lowest terms and convert between improper fractions and mixed numbers.

Lesson 15: Converting Between Fractions and Decimals

Lesson Objective: Explore the relationship between fractions and decimals, including converting fractions to decimals and vice versa.

Decimal Operations Mastery

Lesson 16: Multiplying and Dividing Decimals

Lesson Objective: Learn how to multiply and divide decimals, including estimating products and quotients, handling decimal points, and solving word problems involving decimal operations.

Lesson 17: Decimal Operations with Inequalities

Lesson Objective: Explore inequalities involving decimal multiplication and division, focusing on solving problems where decimal operations play a role in determining inequalities.

Mixed Decimal Operations

Lesson 18: Mixed Decimal Operations and Expressions



Lesson Objective: Develop proficiency in performing mixed decimal operations, including addition, subtraction, multiplication, and division, and apply these skills to evaluate numerical expressions involving decimals.

Adding and Subtracting Fractions

Lesson 19: Adding and Subtracting Fractions with Like Denominators

Lesson Objective: Master the skills of adding and subtracting fractions with common denominators and apply these skills to solve real-world word problems.

Lesson 20: Adding and Subtracting Fractions with Unlike Denominators

Lesson Objective: Develop proficiency in adding and subtracting fractions with different denominators and apply these skills to solve word problems involving fractions.

Multiplying Fractions and Mixed Numbers

Lesson 21: Multiplying Fractions by Whole Numbers

Lesson Objective: Learn to multiply fractions by whole numbers using models and apply this knowledge to solve word problems.

Lesson 22: Multiplying Fractions and Mixed Numbers

Lesson Objective: Develop proficiency in multiplying fractions, mixed numbers, and whole numbers and apply these skills to solve complex word problems involving various types of numbers.

Dividing Fractions and Mixed Numbers

Lesson 23: Dividing Fractions by Whole Numbers

Lesson Objective: Learn to divide fractions by whole numbers using models and apply this knowledge to real-world scenarios.

Lesson 24: Dividing Fractions and Mixed Numbers



Lesson Objective: Develop proficiency in dividing fractions and mixed numbers, both by whole numbers and other fractions. Solve word problems involving the division of fractions and mixed numbers.

Exploring Integers

Lesson 25: Introduction to Integers

Lesson Objective: Gain a fundamental understanding of integers, their properties, and how they relate to real-world situations.

Lesson 26: Comparing and Ordering Integers

Lesson Objective: Learn how to compare and order integers, including using number lines and understanding absolute value. Solve word problems that involve integers and their absolute values.

Operations with Integers

Lesson 27: Addition and Subtraction of Integers

Lesson Objective: Learn how to add and subtract integers using counters, number lines, and standard methods. Solve real-world word problems involving integer operations.

Lesson 28: Multiplication and Division of Integers

Lesson Objective: Understand how to multiply and divide integers, including finding the sign of the result. Practice solving integer multiplication and division problems.

Exploring Rational Numbers

Lesson 29: Understanding Rational Numbers on Number Lines

Lesson Objective: Students will learn how to represent rational numbers on number lines, enabling them to visualize the placement of different fractions and decimals, enhancing their number sense.

Lesson 30: Comparing and Ordering Rational Numbers



Lesson Objective: This lesson focuses on comparing and ordering rational numbers, both fractions and decimals. Students will develop the skills to determine which numbers are greater or lesser and arrange them in ascending or descending order.

Lesson 31: Classifying Rational Numbers

Lesson Objective: In this lesson, students will classify rational numbers using a diagram that helps them distinguish between positive and negative numbers, fractions, and decimals. This classification will deepen their understanding of rational numbers and their relationships.

Exploring the Coordinate Plane

Lesson 32: Introduction to the Coordinate Plane

Lesson Objective: Students will learn to describe and understand the fundamental concepts of the coordinate plane, including the x-axis, y-axis, and the origin.

Lesson 33: Graphing Points on a Coordinate Plane

Lesson Objective: This lesson focuses on teaching students how to graph points on a coordinate plane using x and y coordinates. They will gain practical experience in plotting and locating points.

Lesson 34: Distance, Area, and Perimeter in the Coordinate Plane

Lesson Objective: Students will apply their knowledge of the coordinate plane to calculate distances between two points and solve real-world problems. They will also explore how to find the area and perimeter of squares and rectangles on the coordinate plane.

Ratios, Rates, and Proportions

Lesson 35: Introduction to Ratios

Lesson Objective: Students will understand the concept of ratios, learn how to write them, and solve basic word problems involving ratios.

Lesson 36: Equivalent Ratios and Ratio Tables



Lesson Objective: This lesson focuses on identifying equivalent ratios and creating ratio tables. Students will learn to recognize different forms of ratios and work with various representations.

Lesson 37: Rates and Unit Rates

Lesson Objective: Students will grasp the concept of rates and unit rates. They will learn to calculate unit rates and apply them to real-life situations, understanding the relationship between different quantities.

Lesson 38: Solving Ratio Word Problems

Lesson Objective: This lesson teaches students how to use tape diagrams to solve complex ratio word problems. They will apply their knowledge of ratios to practical scenarios.

Lesson 39: Proportions and Scale Drawings

Lesson Objective: Students will learn about proportions, including how to identify if ratios form a proportion and how to solve proportions. The lesson will also cover scale drawings and their application in real-world problems.

Proportional Relationships and Graphs

Lesson 40 : Identifying Proportional Relationships from Graphs

Lesson Objective: Students will learn to recognize proportional relationships by analyzing graphs. They will identify patterns and understand how to distinguish between proportional and non-proportional graphs.

Lesson 41: Identifying Proportional Relationships from Tables

Lesson Objective: In this lesson, students will discover how to identify proportional relationships by examining data tables. They will practice recognizing the constant ratio and understand how this indicates proportionality.

Lesson 42: Interpreting Graphs of Proportional Relationships

Lesson Objective: This lesson delves deeper into interpreting graphs of proportional relationships. Students will understand how to read and analyze these graphs to extract valuable information and make predictions.



Percents

Lesson 43: Understanding Percentages

Lesson Objective: Students will gain a fundamental understanding of percentages, what they represent, and how they are used in various contexts.

Lesson 44: Converting Between Percents, Fractions, and Decimals

Lesson Objective: Students will learn how to convert between percentages, fractions, and decimals, developing the skills to work fluently with these representations.

Lesson 45: Comparing Percents and Fractions

Lesson Objective: Students will practice comparing percentages to each other and to fractions, solving word problems that involve the application of these concepts.

Percents of Numbers

Lesson 46: Estimating Percents of Numbers

Lesson Objective: Students will learn to make reasonable estimates for finding percentages of numbers.

Lesson 47: Solving Percent Problems with Models

Lesson Objective: Students will use grid and strip models to solve percent problems, gaining a visual understanding of percentage calculations.

Lesson 48: Percents of Numbers: Word Problems

Lesson Objective: Students will solve word problems involving percentages of numbers, reinforcing their ability to apply percentage concepts to various contexts and develop problem-solving strategies.

Lesson 49: Percents of Numbers: Fractional and Decimal Percents



Lesson Objective: This lesson will delve into fractional and decimal percents, providing students with a deep understanding of different forms of percentages. They will learn to convert between fractions, decimals, and percentages effectively.

Lesson 50: Finding What Percent One Number is of Another

Lesson Objective: Students will learn to calculate the percentage one number represents of another. They will develop skills to compare numbers in terms of percentages, enabling them to make meaningful comparisons.

Lesson 51: Finding What Percent One Number is of Another: Word Problems

Lesson Objective: This lesson will focus on solving word problems that involve finding percentages of numbers in relation to other numbers. Students will apply their knowledge to real-life scenarios, enhancing their problem-solving abilities.

Units of Measurement

Lesson 52: Estimating and Converting Measurements

Lesson Objective: Students will learn to estimate and convert measurements in both customary and metric units, developing a solid foundation for understanding the principles of measurement.

Lesson 53: Advanced Conversions and Temperature Comparison

Lesson Objective: Building on their knowledge from Lesson 1, students will delve into more complex conversions involving mixed units and temperatures. They will also learn to compare temperatures in both Celsius and Fahrenheit scales.

Consumer Math Basics

Lesson 54: Making Informed Purchases

Lesson Objective: Students will learn how to make cost-effective choices by comparing coupons to determine the better deal. This lesson will introduce them to the concept of unit prices and help them make informed shopping decisions.

Lesson 55: Understanding Unit Prices



Lesson Objective: Building on their knowledge from Lesson 1, students will dive deeper into unit prices. They will work with fractions, decimals, and customary unit conversions to calculate unit prices accurately.

Lesson 56: Sale Prices and Percent Calculations

Lesson Objective: In this lesson, students will explore sale prices and learn to find the original price when a discount is applied. Additionally, they will gain proficiency in calculating percentages for tax, tip, mark-up, and more.

Expressions Unveiled

Lesson 57: Introduction to Variable Expressions

Lesson Objective: In this foundational lesson, students will learn how to write variable expressions with one operation, providing them with a solid understanding of the basics of expressing mathematical relationships.

Lesson 58: Comprehensive Expression Mastery

Lesson Objective: Building upon their knowledge from Lesson 1, students will delve into more complex variable expressions involving two operations. They will also explore real-world applications through word problems.

Mastering Equivalent Expressions

Lesson 59: Understanding and Applying Properties

Lesson Objective: Students will learn the properties of addition and multiplication, along with how to use these properties to identify and create equivalent expressions. Strip models will be used to visually represent these concepts.

Lesson 60: Simplifying and Identifying Equivalencies

Lesson Objective: Building upon their understanding of properties, students will learn how to simplify numerical and variable expressions. They will practice identifying equivalent expressions through various examples and exercises.



Solving One-Variable Equations

Lesson 61: Introduction to Equations

Lesson Objective: Students will understand what equations are, how they are represented, and how to determine if a given value satisfies an equation. They will practice translating verbal descriptions into equations.

Lesson 62: Solving One-Step Equations with Whole Numbers

Lesson Objective: Students will learn to solve one-step equations involving addition, subtraction, multiplication, and division with whole numbers. They will practice solving equations and word problems in this context.

Lesson 63: Solving One-Step Equations with Decimals, Fractions, and Integers

Lesson Objective: Building on their knowledge of one-step equations, students will extend their skills to solve equations involving decimals, fractions, and integers. They will solve equations and word problems with these types of numbers.

Solving One-Variable Inequalities

Lesson 64: Introduction to Inequalities

Lesson Objective: Students will understand the concept of inequalities, learn to represent them graphically on number lines, and write inequalities from given number line representations.

Lesson 65: Solving One-Step Inequalities

Lesson Objective: Building on their understanding of inequalities, students will learn to solve one-step inequalities, including graphing the solutions on number lines. They will also apply these skills to solve word problems involving one-step inequalities.

Lesson 66: Understanding and Solving One-Variable Inequalities

Lesson Objective: In this comprehensive lesson, students will learn about solutions to inequalities, how to graph inequalities on number lines, write inequalities based on number line representations, solve one-step inequalities, graph the solutions, and apply these skills to solve word problems involving one-step inequalities.



Solving Two-Variable Equations

Lesson 67: Understanding Two-Variable Equations

Lesson Objective: Students will learn to identify solutions (x, y) that satisfy two-variable equations. They will understand the relationship between the variables and how specific values make the equation true.

Lesson 68: Identifying Independent and Dependent Variables

Lesson Objective: This lesson focuses on recognizing independent and dependent variables in tables and graphs. Students will understand the role of each variable in a relationship and how changes in one variable affect the other.

Lesson 69: Writing Equations from Graphs and Tables

Lesson Objective: Students will learn to write equations from graphs and tables, translating real-world scenarios into mathematical expressions. They will gain proficiency in representing relationships between variables using equations.

Lines, Angles, and Angle Relationships

Lesson 70: Introduction to Lines and Angles

Lesson Objective: In this lesson, students will learn about lines, line segments, rays, and the basics of angles. They will measure and classify angles, estimate angle measurements, and understand how to name angles.

Lesson 71: Angle Relationships

Lesson Objective: In this lesson, students will explore angle relationships, including complementary and supplementary angles. They will identify and find measures of complementary, supplementary, vertical, and adjacent angles, developing a solid understanding of these angle types and their properties.

Two-Dimensional Figures and Their Properties

Lesson 72: Introduction to Polygons and Triangles



Lesson Objective: In this lesson, students will learn to identify and classify polygons, with a focus on triangles. They will explore triangle inequality, classify different types of triangles, and understand the properties that make triangles unique.

Lesson 73: Quadrilaterals and Angles in Polygons

Lesson Objective: In this lesson, students will delve into the classification of quadrilaterals, identify trapezoids, and understand the properties of various quadrilaterals. They will also explore the sums of angles in polygons and learn about line symmetry.

Exploring Three-Dimensional Figures

Lesson 74: Introduction to Three-Dimensional Figures

Lesson Objective: In this lesson, students will be introduced to three-dimensional figures, including polyhedra. They will learn to identify different types of three-dimensional figures, explore their properties, and understand the concept of nets and how they relate to these figures. Additionally, they will gain insights into the front, side, and top views of three-dimensional objects.

Perimeter and Area Mastery

Lesson 75: Mastering Perimeter

Lesson Objective: Students will understand the concept of perimeter and learn how to calculate the perimeter of various polygons, including rectangles, squares, parallelograms, and trapezoids.

Lesson 76: Exploring Rectangles and Squares

Lesson Objective: In this lesson, students will delve into the world of area, specifically focusing on rectangles and squares. They will learn how to calculate the area of these shapes and understand the relationship between perimeter and area.

Lesson 77: Unraveling Triangles and Trapezoids



Lesson Objective: Students will explore the area of triangles and trapezoids, understanding the unique formulas associated with these shapes. They will also solve word problems involving triangles and trapezoids.

Lesson 78: Advanced Areas: Quadrilaterals and Compound Figures

Lesson Objective: This lesson introduces more complex shapes like rhombuses and compound figures. Students will learn how to calculate the area of quadrilaterals and compound figures, combining their knowledge of basic shapes.

Data Visualization Mastery

Lesson 79: Introduction to Data Visualization

Lesson Objective: This introductory lesson provides an overview of data visualization concepts, emphasizing the importance of effectively communicating data through graphs and charts.

Lesson 80: Line Plots and Bar Graphs

Lesson Objective: In this lesson, students will learn the fundamentals of line plots and bar graphs. They will understand how to interpret and create these types of data visualizations, including working with fractions and percentages.

Lesson 81: Histograms and Circle Graphs

Lesson Objective: This lesson delves into the world of histograms and circle graphs, teaching students how to interpret and create these data visualizations effectively.

Lesson 82: Line Graphs and Double Line Graphs

Lesson Objective: In this lesson, students will explore line graphs and double line graphs. They will learn how to interpret and create these graphs, which are valuable tools for displaying trends and relationships in data.

Lesson 83: Stem-and-Leaf Plots

Lesson Objective: This lesson covers the interpretation and creation of stem-and-leaf plots offering students advanced techniques for displaying and analyzing data distributions.

Lesson 84: Box Plots



Lesson Objective: This lesson covers the interpretation and creation of box plots, offering students advanced techniques for displaying and analyzing data distributions.

Statistical Analysis

Lesson 85: Formulating Statistical Questions

Lesson Objective: Students will learn how to formulate meaningful statistical questions and understand the importance of clear and precise questions in data analysis.

Lesson 86: Measures of Central Tendency

Lesson Objective: In this lesson, students will explore the mean, median, mode, and range as measures of central tendency. They will learn how to calculate and interpret these statistics.

Lesson 87: Analyzing Charts and Graphs

Lesson Objective: Students will understand how to interpret charts and graphs to extract information about measures of central tendency, including mean, median, mode, and range.

Lesson 88: Variability and Outliers

Lesson Objective: This lesson focuses on variability and introduces students to concepts like mean absolute deviation, quartiles, interquartile range, and how to identify outliers in data sets.

Lesson 89: Data Sampling and Bias

Lesson Objective: Students will learn about different types of samples, including representative, random, and biased samples, and how they can affect the results of statistical analysis.

Exploring Probability

Lesson 90: Counting Principle

Lesson Objective: Students will understand the counting principle and how to use it to calculate the total number of outcomes in various situations involving multiple events.



Lesson 91: Probability of One Event

Lesson Objective: This lesson introduces the concept of probability for a single event, helping students calculate and interpret the likelihood of an event occurring.

Lesson 92: Make Predictions

Lesson Objective: Students will apply their understanding of probability to make predictions and analyze real-world scenarios where probability plays a key role.

Lesson 93: Probability of Simple Events and Opposite Event

Lesson Objective: In this lesson, students will explore the concept of the opposite event and learn how to calculate the probability of simple events and their complements. They will apply this knowledge to solve probability problems.

Financial Literacy Essentials

Lesson 94: Banking Basics

Lesson Objective: Students will learn about financial institutions, compare checking accounts, understand the importance of check registers for managing personal finances, and differentiate between debit cards and credit cards.

Lesson 95: Finance

Lesson Objective: In this lesson, students will explore credit reports, learn how to manage and maintain a good credit score, and understand the financial aspects of paying for college.

Lesson 96: Career and Income Planning

Lesson Objective: This lesson focuses on the relationship between education, career choices, and income potential. Students will gain insights into various occupations and their income prospects, aiding in informed career decisions.