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Curriculum Outline GRADE 7

A Guide for Grade 7 Math Curriculum

GRADE 7

years

TOPICS

GEOMETRY

➢ Circles: Calculate Area, Radius, Circumference
➢ Parts of a Circle
➢ Congruence Statements and Corresponding Parts
➢ Similar and Congruent Figures
➢ Similar Figures: Side Lengths and Angle Measures
➢ Find Complementary, Vertical, and Adjacent Angles
➢ Identify Angles by Type
➢ Similar Figures and Indirect Measurement
➢ Area of Triangles and Trapezoids
➢ Congruent Figures: Side Lengths and Angle Measures
➢ Front, Side, and Top View
➢ Area of Rectangles and Parallelograms
➢ Nets of 3-Dimensional Figures
➢ Volume of Cubes and Rectangular Prisms
➢ Surface Area
➢ Circles
➢ Names and Bases of 3-Dimensional Figures
➢ Perimeter Area and Volume Changes in Scale
➢ Construct Angles with a Protractor
➢ Construct Obtuse, Acute, Right Angle Using a Protractor
➢ Construct Angles with Mixed Equations Using a Protractor
➢ Name, Measure and Classify Angles
➢ Quarter Circles

ALGEBRA

➢ Model and Solve Equations Using Algebra Tiles
➢ Solving Proportions
➢ Add and Subtract Integers
➢ Complete Addition and Subtraction Sentences with Integers
➢ Complete Addition and Subtraction Sentences with Integers
➢ Distributive Property
➢ Add and Subtract Like Terms
➢ Simplify Variable Expressions Using Properties
➢ Solve Equations Using Properties
➢ Solve One-Step Linear Inequalities
➢ Solve Two-Step Linear Equations
➢ Solve One-Step Linear Equations
➢ Solve Equations involving Like Terms
➢ Guess and Check
➢ Linear Function
➢ Solutions to Variable Inequalities
➢ Solve Two-Step Linear Inequalities
➢ Scale Drawings and Scale Factors
➢ Linear Function with Intercepts

TOPICS

MONEY

- Consumer Math: Unit Prices
- Unit Prices with Unit Conversions Up to 20
- Unit Prices with Unit Conversions Up to 40
- Sale Prices: Find the Original Price
- Compound Interest
- Simple Interest
- Percent of a Number: Tax, Discount, Tip
- Mixed Equations with Money Amounts
- Consumer Math: Price Lists
- Find the Number of Each Type of Coin
- Unit Prices with Metric Unit Conversions Up to 20
- Unit Prices with Metric Unit Conversions II

DIVISION

- Divide Fractions and Mixed Numbers Up to 1/16
- Divide Fractions and Mixed Numbers Up to 1/16, 1/32
- Divide Fractions and Mixed Numbers Up to 1/32
- Constant of Variation
- Find the Proportional Relationship
- Estimate Using Proportions
- Integer Multiplication and Division Rules
- Multiply and Divide Integers
- Complete Multiplication and Division Sentences with Integers
- Divisibility Rules
- Divide Decimals by Whole Numbers
- Multiply and Divide Rational Numbers
- Divide by Fractions with Models
- Divide and Multiply Mixed Numbers
- Divide Decimals
- Multi Step Inequalities with Decimals
- Constant of Variation with Tables
- Factorial Division

RATIOS

- Describe Pictures as Ratios
- Equivalent Ratios
- Equivalent Ratios
- Unit Rates
- Ratios and Proportions
- Ratios and Proportions
- Percent Change
- Estimate Percents of Numbers
- Solving Proportions
- Percent Equations
- Percents of Numbers and Money Amounts
- Percents of Numbers
- Percent Equations
- Percent Change
- Find the Percent: Tax, Discount
- Unit Prices: Find the Total
- Percents with Multi-Step Problems
- Estimate Tips
- Experimental Probability
- Compare Ratios
- Understanding Fractions
- Convert Between Percents, Fractions and Decimals

GRAPHING

- Identify Proportional Relationships
- Maps with Decimal Distances
- Maps with Fractional Distances
- Use Venn Diagrams to Solve Problems

TOPICS

FRACTIONS

- ➤ Divide Fractions and Mixed Numbers Up to 1/16
- ➤ Divide Fractions and Mixed Numbers Up to 1/16, 1/32
- ➤ Divide Fractions and Mixed Numbers Up to 1/32
- ➤ Solving Proportions
- ➤ Add and Subtract Fractions
- ➤ Add and Subtract Mixed Numbers
- ➤ Multiplicative Inverses
- ➤ Add and Subtract Rational Numbers
- ➤ Divide by Fractions with Models
- ➤ Multiply Fractions with Models
- ➤ Divide and Multiply Mixed Numbers
- ➤ Convert Between Decimals and Fractions or Mixed Numbers
- ➤ Multiply Mixed Numbers
- ➤ Multiply Fractions by Whole Numbers
- ➤ Add and Subtract Fractions
- ➤ Add and Subtract Mixed Numbers
- ➤ Multiply Fractions by Whole Numbers
- ➤ Mixed Equations with Fractions, Mixed Numbers
- ➤ Add, Subtract Inequalities with Fractions and Mixed Numbers
- ➤ Choose the Equivalent Fraction
- ➤ Reducing Fractions to Lowest Terms
- ➤ Compare Fractions
- ➤ Compare Fractions
- ➤ Compare Mixed Numbers and Improper Fractions
- ➤ Add and Subtract Mixed Numbers
- ➤ Convert Between Improper Fractions and Mixed Numbers
- ➤ Estimate Sums and Differences of Mixed Numbers
- ➤ Estimate Products of Fractions and Mixed Numbers
- ➤ Compare Percents to Fractions and Decimals
- ➤ Convert Between Percents, Fractions and Decimals

STATS

- ➤ Probability of Simple Events
- ➤ Probability of Opposite and Overlapping Events
- ➤ Probability of Independent and Dependent Events
- ➤ Compound Events: Find the Number of Outcomes
- ➤ Combination and Permutation Notation
- ➤ Counting Principle
- ➤ Permutations
- ➤ Factorials
- ➤ Identify Independent and Dependent Events
- ➤ Making Predictions
- ➤ Calculate Mean, Median, Mode and Range
- ➤ Interpret Charts to Find Mean, Median, Mode, and Range
- ➤ Mean, Median, Mode, and Range: Find the Missing Number
- ➤ Changes in Mean, Median, Mode, and Range
- ➤ Identify Representative, Random, and Biased Samples
- ➤ Calculate Mean
- ➤ Calculate Median
- ➤ Calculate Mode
- ➤ Calculate Range
- ➤ Interpret Charts to Find Mean
- ➤ Interpret Charts to Find Median
- ➤ Interpret Charts to Find Mode
- ➤ Interpret Charts to Find Range
- ➤ Mean: Find the Missing Number
- ➤ Median: Find the Missing Number
- ➤ Mode: Find the Missing Number
- ➤ Range: Find the Missing Number
- ➤ Changes in Mean
- ➤ Changes in Median
- ➤ Changes in Mode
- ➤ Changes in Range
- ➤ Identify Representative Samples
- ➤ Identify Random Samples
- ➤ Identify Biased Samples
- ➤ Probability Problems
- ➤ Prediction Problems
- ➤ Factorial Division

TOPICS

MIXED EQUATIONS

- ➢ Solving Proportions
- ➢ Add and Subtract Integers
- ➢ Add and Subtract Decimal Numbers
- ➢ Evaluate Expressions with Decimals
- ➢ Complete Addition and Subtraction Sentences with Integers
- ➢ Complete Addition and Subtraction Sentences with Integers
- ➢ Distributive Property
- ➢ Add and Subtract Rational Numbers
- ➢ Add and Subtract Decimals
- ➢ Add and Subtract Like Terms
- ➢ Simplify Variable Expressions Using Properties
- ➢ Inequalities with Scientific Notation
- ➢ Mixed Equations with Decimals
- ➢ Add and Subtract Fractions
- ➢ Multi Step Inequalities with Decimals
- ➢ Add and Subtract Mixed Numbers
- ➢ Mixed Equations with Fractions, Mixed Numbers
- ➢ Add, Subtract Inequalities with Fractions and Mixed Numbers
- ➢ Compare Mixed Numbers and Improper Fractions
- ➢ Estimate Mixed Equations
- ➢ Multi-Step

NUMBER PROPERTIES

- ➢ Absolute Value and Opposite Integers
- ➢ Integer Inequalities with Absolute Values
- ➢ Rational Numbers: Absolute Value of Rational Numbers
- ➢ Distributive Property
- ➢ Divisibility Rules
- ➢ Integers: Understanding Integers
- ➢ Properties of Addition and Multiplication
- ➢ Add and Subtract Like Terms
- ➢ Simplify Variable Expressions Using Properties
- ➢ Place Values and Number Sense: Scientific Notation
- ➢ Inequalities with Scientific Notation
- ➢ Multi Step Inequalities with Decimals
- ➢ Add, Subtract Inequalities with Fractions and Mixed Numbers
- ➢ Choose the Equivalent Fraction
- ➢ Compare Mixed Numbers and Improper Fractions
- ➢ Solve Equations Using Properties
- ➢ Solve One-Step Linear Inequalities
- ➢ Solutions to Variable Inequalities
- ➢ Classify Numbers

DECIMALS

- ➢ Solving Proportions
- ➢ Estimate Using Proportions
- ➢ Add and Subtract Decimal Numbers
- ➢ Evaluate Expressions with Decimals
- ➢ Divide Decimals by Whole Numbers
- ➢ Add and Subtract Decimals
- ➢ Multiply Decimals
- ➢ Convert Between Decimals and Fractions or Mixed Numbers
- ➢ Divide Decimals
- ➢ Inequalities with Scientific Notation
- ➢ Mixed Equations with Decimals
- ➢ Multi Step Inequalities with Decimals
- ➢ Compare Percents to Fractions and Decimals
- ➢ Convert Between Percents, Fractions and Decimals
- ➢ Multiply Decimals and Whole Numbers

SUBTRACTION

- ➢ Integer Addition and Subtraction Rules
- ➢ Add and Subtract Fractions
- ➢ Add and Subtract Mixed Numbers
- ➢ Simplify Expressions involving Integers

TOPICS

ADDITION

➢ Integer Addition and Subtraction Rules
➢ Add and Subtract Fractions
➢ Add and Subtract Mixed Numbers
➢ Simplify Expressions involving Integers
➢ Properties of Addition and Multiplication

ESTIMATION

➢ Round Decimals
➢ Estimate Sums, Differences and Products of Decimals
➢ Estimate Mixed Equations

MULTIPLICATION

➢ Integer Multiplication and Division Rules
➢ Multiply and Divide Integers
➢ Complete Multiplication and Division Sentences with Integers
➢ Multiply and Divide Rational Numbers
➢ Properties of Addition and Multiplication
➢ Divide and Multiply Mixed Numbers
➢ Multiply Mixed Numbers
➢ Multiply Fractions by Whole Numbers
➢ Mixed Equations with Money Amounts
➢ Multi Step Inequalities with Decimals
➢ Multiply Fractions by Whole Numbers

MEASUREMENT

➢ Area and Perimeter

TOPICS

COMPARISON

➢ Use Venn Diagrams to Solve Problems

TIME

➢ Elapsed Time