SAT 10 Compendium of Instructional Objectives

Matched to

SkillsTutor and SkillsBank Mathematics I

Intermediate 2

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify the place value of a digit in a whole or decimal number

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation

Identify alternative representations of rational numbers

Number Concepts: Lesson 3 – Number Lines

Compare and order rational numbers

Number Concepts: Lesson 3 – Number Lines

Round whole numbers to a specified place value

Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Identify and use field properties of addition and multiplication

Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses

Identify factors or multiples of numbers

Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization

Solve problems using numerical reasoning

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator

Number Concepts: Lesson 11 – Simplifying Fractions
Number Concepts: Classification: A Trip to Numberland
Number Concepts: Lesson 12 – Equations and Inequalities
Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Number Concepts: Induction: A Treasure Hunt
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
Computation: Lesson 21 – Interchanging Percents and Decimals
Computation: Lesson 22 – Interchanging Fractions and Percents
Computation: Lesson 23 – Finding the Percent of a Number
Computation: Decision Making: A Job at the Ballpark

Solve problems using appropriate strategies

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Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Solve problems using nonroutine strategies

Number Concepts: Lesson 14 - Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols, and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Solve simple algebraic equations

Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate understanding of basic probability concepts.

Analyze tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Determine and use measures of central tendency

Word Problems: Lesson 12 - Averages

Read and interpret tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Solve problems using properties of geometric figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Solve problems involving perimeter or area

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume

Identify appropriate units of measurement

Measurement and Geometry: Lesson 2 – Appropriate Units of Measure

Estimate or measure length using customary or metric units

Measurement and Geometry: Lesson 1 – Reading a Ruler

Solve problems involving elapsed time

Measurement and Geometry: Lesson 3 – Time and the Calendar

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator
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Computation: Lesson 5 – Addition of Decimals
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Word Problems: Lesson 8 – Needed Operations

Word Problems: Lesson 9 – Needed Information
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Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Lesson 1 – Reading a Ruler
Measurement and Geometry: Lesson 2 – Appropriate Units of Measure
Measurement and Geometry: Lesson 3 – Time and the Calendar
Measurement and Geometry: Lesson 4 – Temperature
Measurement and Geometry: Lesson 5 – Money
Measurement and Geometry: Lesson 6 – Roman Numerals
Measurement and Geometry: Lesson 7 – Fractional Part of a Set
Measurement and Geometry: Lesson 8 – Terms in Geometry
Measurement and Geometry: Lesson 9 – Plane and Solid Figures
Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Estimation

Apply estimation strategies in problem solving and determine the reasonableness of results.

Number Concepts: Lesson 5 – Estimating

Mathematical Connections

Demonstrate an understanding of the interrelatedness of mathematical concepts, procedures, and processes both among different mathematical topics and with other content areas.

Number Concepts: Classification: A Trip to Numberland
Number Concepts: Induction: A Treasure Hunt
Computation: Comparison: Renting a Car
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Measurement and Geometry: Problem Solving: Designing a Playground

Reasoning and Problem Solving

Demonstrate the ability to apply inductive, deductive, or spatial reasoning and to make valid inferences and draw valid conclusions. Demonstrate the ability to apply strategies to solve conventional and nonroutine problems.

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Mathematics Procedures

Computation with Whole Numbers

Addition of whole numbers using symbolic notation

Computation: Lesson 1 – Addition of Whole Numbers

Addition of whole numbers in context

Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Subtraction of whole numbers using symbolic notation

Computation: Lesson 2 – Subtraction of Whole Numbers

Subtraction of whole numbers in context

Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Multiplication of whole numbers using symbolic notation

Computation: Lesson 3 – Multiplication of Whole Numbers

Multiplication of whole numbers in context

Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication

Division of whole numbers using symbolic notation

Computation: Lesson 4 – Division of Whole Numbers

Division of whole numbers in context

Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 7 – Two-Step Problems Using Division

Computation with Decimals

Addition of decimals using symbolic notation

Computation: Lesson 5 – Addition of Decimals

Addition of decimals in context

Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of decimals using symbolic notation

Computation: Lesson 6 – Subtraction of Decimals

Subtraction of decimals in context

Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of decimals using symbolic notation

Computation: Lesson 7 – Multiplication of Decimals

Multiplication of decimals in context

Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of decimals using symbolic notation

Computation: Lesson 8 – Division of Decimals

Division of decimals in context

Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation with Fractions

Addition of fractions using symbolic notation

Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals

Addition of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of fractions using symbolic notation

Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals

Subtraction of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of fractions using symbolic notation

Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals

Multiplication of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of fractions using symbolic notation

Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals

Division of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation in Context

Demonstrate the ability to solve everyday problems requiring addition, subtraction, multiplication, and division.

Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
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Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

Computation with Symbolic Notation

Demonstrate the ability to solve addition, subtraction, multiplication, and division problems represented by the symbols and notation of arithmetic.

Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property

Number Concepts: Lesson 20 – Identity Elements and Inverses
Computation: Lesson 1 – Addition of Whole Numbers
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Computation: Problem Solving: Planning a Pizza Party
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Intermediate 3

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify the place value of a digit in a whole or decimal number

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation

Round whole or decimal numbers to a specified place value

Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating

Identify least common multiple or greatest common factor for a set of numbers

Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Compare and order rational numbers

Number Concepts: Lesson 3 – Number Lines

Identify alternative representations of rational numbers

Number Concepts: Lesson 3 – Number Lines

Identify and use field properties of addition and multiplication

Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
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Solve problems using appropriate strategies

Number Concepts: Classification: A Trip to Numberland
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Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Solve problems using numerical reasoning

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Computation: Decision Making: A Job at the Ballpark

Solve problems using nonroutine strategies

Number Concepts: Lesson 14 - Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols, and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Solve simple algebraic equations

Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts trhough interaction with simple events, compound events, and experimental probability.

Read and interpret tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Determine and use measures of central tendency

Word Problems: Lesson 12 - Averages

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Classify Angles

Measurement and Geometry: Lesson 8 – Terms in Geometry

Identify appropriate units of measurement

Measurement and Geometry: Lesson 2 – Appropriate Units of Measure

Solve problems involving perimeter or area

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator
Number Concepts: Lesson 11 – Simplifying Fractions
Number Concepts: Classification: A Trip to Numberland
Number Concepts: Lesson 12 – Equations and Inequalities
Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Number Concepts: Induction: A Treasure Hunt
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions

Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
Computation: Lesson 21 – Interchanging Percents and Decimals
Computation: Lesson 22 – Interchanging Fractions and Percents
Computation: Lesson 23 – Finding the Percent of a Number
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Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
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Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
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Word Problems: Lesson 8 – Needed Operations
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Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
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Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Lesson 1 – Reading a Ruler
Measurement and Geometry: Lesson 2 – Appropriate Units of Measure
Measurement and Geometry: Lesson 3 – Time and the Calendar
Measurement and Geometry: Lesson 4 – Temperature
Measurement and Geometry: Lesson 5 – Money
Measurement and Geometry: Lesson 6 – Roman Numerals
Measurement and Geometry: Lesson 7 – Fractional Part of a Set
Measurement and Geometry: Lesson 8 – Terms in Geometry
Measurement and Geometry: Lesson 9 – Plane and Solid Figures
Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Estimation

Apply estimation strategies in problem solving and determine the reasonableness of results.

Number Concepts: Lesson 5 – Estimating

Mathematical Connections

Demonstrate an understanding of the interrelatedness of mathematical concepts, procedures, and processes both among different mathematical topics and with other content areas.

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Reasoning and Problem Solving

Demonstrate the ability to apply inductive, deductive, or spatial reasoning and to make valid inferences and draw valid conclusions. Demonstrate the ability to apply strategies to solve conventional and nonroutine problems.

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Mathematics Procedures

Computation with Whole Numbers

Addition of whole numbers using symbolic notation

Computation: Lesson 1 – Addition of Whole Numbers

Addition of whole numbers in context

Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Subtraction of whole numbers using symbolic notation

Computation: Lesson 2 – Subtraction of Whole Numbers

Subtraction of whole numbers in context

Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Multiplication of whole numbers using symbolic notation

Computation: Lesson 3 – Multiplication of Whole Numbers

Multiplication of whole numbers in context
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication

Division of whole numbers using symbolic notation
Computation: Lesson 4 – Division of Whole Numbers

Division of whole numbers in context
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 7 – Two-Step Problems Using Division

Computation with Decimals

Addition of decimals using symbolic notation
Computation: Lesson 5 – Addition of Decimals

Addition of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of decimals using symbolic notation
Computation: Lesson 6 – Subtraction of Decimals

Subtraction of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of decimals using symbolic notation
Computation: Lesson 7 – Multiplication of Decimals

Multiplication of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of decimals using symbolic notation
Computation: Lesson 8 – Division of Decimals

Division of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation with Fractions

Addition of fractions using symbolic notation
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals

Addition of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of fractions using symbolic notation
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals

Subtraction of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of fractions using symbolic notation
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals

Multiplication of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of fractions using symbolic notation
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals

Division of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation in Context
Demonstrate the ability to solve everyday problems requiring addition, subtraction, multiplication, and division.

Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
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Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

Computation with Symbolic Notation

Demonstrate the ability to solve addition, subtraction, multiplication, and division problems represented by the symbols and notation of arithmetic.

Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Computation: Lesson 1 – Addition of Whole Numbers
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Advanced 1

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify alternative representations of real numbers

Measurement and Geometry: Lesson 6 – Roman Numerals

Identify numbers expressed in scientific notation

Number Concepts: Lesson 2 – Expanded Notation

Round decimal numbers to a specified place value

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation

Compare and order real numbers

Number Concepts: Lesson 3 – Number Lines

Identify least common multiple or greatest common factor for a set of numbers

Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Identify alternative representations of real numbers

Number Concepts: Lesson 3 – Number Lines

Identify and use field properties of addition and multiplication

Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses

Solve problems using numerical reasoning

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Computation: Decision Making: A Job at the Ballpark

Solve problems using appropriate strategies

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Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using nonroutine strategies

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Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers and figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts through interaction with simple events, compound events, and experimental probability.

Determine and use measures of central tendency and dispersion

Word Problems: Lesson 12 - Averages

Read and interpret tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Classify Angles

Measurement and Geometry: Lesson 8 – Terms in Geometry

Identify appropriate units of measurement

Measurement and Geometry: Lesson 2 – Appropriate Units of Measure

Solve problems involving perimeter, circumference, area, or volume

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using properties of geometric figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Process

Communication and Representation

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Mathematics Procedures

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Addition of whole numbers using symbolic notation

Computation: Lesson 1 – Addition of Whole Numbers

Addition of whole numbers in context

Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Subtraction of whole numbers using symbolic notation

Computation: Lesson 2 – Subtraction of Whole Numbers

Subtraction of whole numbers in context

Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Multiplication of whole numbers using symbolic notation

Computation: Lesson 3 – Multiplication of Whole Numbers

Multiplication of whole numbers in context

Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication

Division of whole numbers using symbolic notation

Computation: Lesson 4 – Division of Whole Numbers

Division of whole numbers in context
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 7 – Two-Step Problems Using Division

Computation with Decimals

Addition of decimals using symbolic notation
Computation: Lesson 5 – Addition of Decimals

Addition of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
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Subtraction of decimals using symbolic notation
Computation: Lesson 6 – Subtraction of Decimals

Subtraction of decimals in context
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Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of decimals using symbolic notation
Computation: Lesson 7 – Multiplication of Decimals

Multiplication of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of decimals using symbolic notation
Computation: Lesson 8 – Division of Decimals

Division of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation with Fractions

Addition of fractions using symbolic notation
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals

Addition of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of fractions using symbolic notation

Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals

Subtraction of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of fractions using symbolic notation

Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals

Multiplication of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of fractions using symbolic notation

Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals

Division of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation in Context

Demonstrate the ability to solve everyday problems requiring addition, subtraction, multiplication, and division.

Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

Computation with Symbolic Notation

Demonstrate the ability to solve addition, subtraction, multiplication, and division problems represented by the symbols and notation of arithmetic.

Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
Computation: Lesson 21 – Interchanging Percents and Decimals
Computation: Lesson 22 – Interchanging Fractions and Percents
Computation: Lesson 23 – Finding the Percent of a Number
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

Advanced 2

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Compare and order real numbers

Number Concepts: Lesson 3 – Number Lines

Identify alternative representations of real numbers

Measurement and Geometry: Lesson 6 – Roman Numerals

Identify numbers expressed in scientific notation

Number Concepts: Lesson 2 – Expanded Notation

Solve problems using appropriate strategies

Number Concepts: Classification: A Trip to Numberland
Number Concepts: Induction: A Treasure Hunt
Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Solve problems using numerical reasoning

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator
Number Concepts: Lesson 11 – Simplifying Fractions

Number Concepts: Classification: A Trip to Numberland
Number Concepts: Lesson 12 – Equations and Inequalities
Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Number Concepts: Induction: A Treasure Hunt
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
Computation: Lesson 21 – Interchanging Percents and Decimals
Computation: Lesson 22 – Interchanging Fractions and Percents
Computation: Lesson 23 – Finding the Percent of a Number
Computation: Decision Making: A Job at the Ballpark

Solve problems using nonroutine strategies

Number Concepts: Lesson 14 - Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts through interaction with simple events, compound events, and experimental probability.

Analyze data and draw inferences from tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Determine and use measures of central tendency and dispersion

Word Problems: Lesson 12 - Averages

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Solve problems involving perimeter, circumference, area, or volume

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Classify Angles

Measurement and Geometry: Lesson 8 – Terms in Geometry

Solve problems using properties of geometric figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator
Number Concepts: Lesson 11 – Simplifying Fractions
Number Concepts: Classification: A Trip to Numberland
Number Concepts: Lesson 12 – Equations and Inequalities
Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Number Concepts: Induction: A Treasure Hunt
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
Computation: Lesson 21 – Interchanging Percents and Decimals
Computation: Lesson 22 – Interchanging Fractions and Percents
Computation: Lesson 23 – Finding the Percent of a Number
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations

Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Lesson 1 – Reading a Ruler
Measurement and Geometry: Lesson 2 – Appropriate Units of Measure
Measurement and Geometry: Lesson 3 – Time and the Calendar
Measurement and Geometry: Lesson 4 – Temperature
Measurement and Geometry: Lesson 5 – Money
Measurement and Geometry: Lesson 6 – Roman Numerals
Measurement and Geometry: Lesson 7 – Fractional Part of a Set
Measurement and Geometry: Lesson 8 – Terms in Geometry
Measurement and Geometry: Lesson 9 – Plane and Solid Figures
Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Estimation

Apply estimation strategies in problem solving and determine the reasonableness of results.

Number Concepts: Lesson 5 – Estimating

Mathematical Connections

Demonstrate an understanding of the interrelatedness of mathematical concepts, procedures, and processes both among different mathematical topics and with other content areas.

Number Concepts: Classification: A Trip to Numberland
Number Concepts: Induction: A Treasure Hunt
Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
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Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Problem Solving: Designing a Playground

Reasoning and Problem Solving

Demonstrate the ability to apply inductive, deductive, or spatial reasoning and to make valid inferences and draw valid conclusions. Demonstrate the ability to apply strategies to solve conventional and nonroutine problems.

Number Concepts: Classification: A Trip to Numberland
Number Concepts: Induction: A Treasure Hunt
Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication
Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings
Measurement and Geometry: Problem Solving: Designing a Playground

Mathematics Procedures

Computation with Whole Numbers

Addition of whole numbers using symbolic notation

Computation: Lesson 1 – Addition of Whole Numbers

Addition of whole numbers in context

Word Problems: Lesson 1 – One-Step Addition Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Subtraction of whole numbers using symbolic notation

Computation: Lesson 2 – Subtraction of Whole Numbers

Subtraction of whole numbers in context

Word Problems: Lesson 2 – One-Step Subtraction Problems
Word Problems: Lesson 5 – Two-Step Problems for Addition and Subtraction

Multiplication of whole numbers using symbolic notation

Computation: Lesson 3 – Multiplication of Whole Numbers

Multiplication of whole numbers in context

Word Problems: Lesson 3 – One-Step Multiplication Problems
Word Problems: Lesson 6 – Two-Step Problems Using Multiplication

Division of whole numbers using symbolic notation

Computation: Lesson 4 – Division of Whole Numbers

Division of whole numbers in context
Word Problems: Lesson 4 – One-Step Division Problems
Word Problems: Lesson 7 – Two-Step Problems Using Division

Computation with Decimals

Addition of decimals using symbolic notation
Computation: Lesson 5 – Addition of Decimals

Addition of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of decimals using symbolic notation
Computation: Lesson 6 – Subtraction of Decimals

Subtraction of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of decimals using symbolic notation
Computation: Lesson 7 – Multiplication of Decimals

Multiplication of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of decimals using symbolic notation
Computation: Lesson 8 – Division of Decimals

Division of decimals in context
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation with Fractions

Addition of fractions using symbolic notation
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals

Addition of fractions in context
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Subtraction of fractions using symbolic notation

Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals

Subtraction of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Multiplication of fractions using symbolic notation

Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals

Multiplication of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Division of fractions using symbolic notation

Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals

Division of fractions in context

Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions

Computation in Context

Demonstrate the ability to solve everyday problems requiring addition, subtraction, multiplication, and division.

Computation: Comparison: Renting a Car
Computation: Problem Solving: Planning a Pizza Party
Computation: Decision Making: A Job at the Ballpark
Word Problems: Lesson 1 – One-Step Addition Problems
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Word Problems: Lesson 7 – Two-Step Problems Using Division
Word Problems: Lesson 8 – Needed Operations
Word Problems: Lesson 9 – Needed Information
Word Problems: Lesson 10 – Word Problems About Money
Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

Computation with Symbolic Notation

Demonstrate the ability to solve addition, subtraction, multiplication, and division problems represented by the symbols and notation of arithmetic.

Number Concepts: Lesson 13 – Finding the Missing Operations
Number Concepts: Lesson 14 – Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 – Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Computation: Lesson 1 – Addition of Whole Numbers
Computation: Lesson 2 – Subtraction of Whole Numbers
Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions
Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
Computation: Lesson 12 – Subtraction of Like Fractions
Computation: Lesson 13 – Subtraction of Unlike Fractions
Computation: Lesson 14 – Subtraction of Mixed Numerals
Computation: Lesson 15 – Multiplication of Fractions
Computation: Lesson 16 – Multiplication of Mixed Numerals
Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
Computation: Problem Solving: Planning a Pizza Party
Computation: Lesson 19 – Introduction to Ratio and Percent
Computation: Lesson 20 – Interchanging Fractions and Decimals
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Computation: Lesson 23 – Finding the Percent of a Number
Computation: Decision Making: A Job at the Ballpark
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Word Problems: Lesson 11 – Menus and Price Lists
Word Problems: Lesson 12 – Averages
Word Problems: Lesson 13 – Decimals and Fractions
Word Problems: Lesson 14 – Standard Units of Measurement
Word Problems: Comparison: Pondering Puddings

TASK 1

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify numbers expressed in scientific notation

Number Concepts: Lesson 2 – Expanded Notation

Identify and use field properties of addition and multiplication

Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses

Compare and order real numbers

Number Concepts: Lesson 3 – Number Lines

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Solve problems using nonroutine strategies

Number Concepts: Lesson 14 - Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts through interaction with simple events, compound events, and experimental probability.

Analyze data and draw inferences from tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Determine and use measures of central tendency and dispersion

Word Problems: Lesson 12 - Averages

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Solve problems involving perimeter, circumference, area, or volume

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Identify and classify solid and plane figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Solve problems using properties of geometric figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
Number Concepts: Lesson 5 – Estimating
Number Concepts: Lesson 6 – Multiples and Factors
Number Concepts: Lesson 7 – Even, Odd, and Prime Numbers
Number Concepts: Lesson 8 – Prime Factorization
Number Concepts: Lesson 9 – The Greatest Common Factor
Number Concepts: Lesson 10 – Least Common Multiple and Denominator
Number Concepts: Lesson 11 – Simplifying Fractions
Number Concepts: Classification: A Trip to Numberland
Number Concepts: Lesson 12 – Equations and Inequalities
Number Concepts: Lesson 13 – Finding the Missing Operations
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Number Concepts: Lesson 19 – The Distributive Property
Number Concepts: Lesson 20 – Identity Elements and Inverses
Number Concepts: Induction: A Treasure Hunt
Computation: Lesson 1 – Addition of Whole Numbers
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Computation: Lesson 3 – Multiplication of Whole Numbers
Computation: Lesson 4 – Division of Whole Numbers
Computation: Lesson 5 – Addition of Decimals
Computation: Lesson 6 – Subtraction of Decimals
Computation: Lesson 7 – Multiplication of Decimals
Computation: Lesson 8 – Division of Decimals
Computation: Comparison: Renting a Car
Computation: Lesson 9 – Addition of Like Fractions

Computation: Lesson 10 – Addition of Unlike Fractions
Computation: Lesson 11 – Addition of Mixed Numerals
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Computation: Lesson 17 – Division of Fractions
Computation: Lesson 18 – Division of Mixed Numerals
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Measurement and Geometry: Lesson 6 – Roman Numerals
Measurement and Geometry: Lesson 7 – Fractional Part of a Set
Measurement and Geometry: Lesson 8 – Terms in Geometry
Measurement and Geometry: Lesson 9 – Plane and Solid Figures
Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Estimation

Apply estimation strategies in problem solving and determine the reasonableness of results.

Number Concepts: Lesson 5 – Estimating

Mathematical Connections

Demonstrate an understanding of the interrelatedness of mathematical concepts, procedures, and processes both among different mathematical topics and with other content areas.

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Reasoning and Problem Solving

Demonstrate the ability to apply inductive, deductive, or spatial reasoning and to make valid inferences and draw valid conclusions. Demonstrate the ability to apply strategies to solve conventional and nonroutine problems.

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TASK 2

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify numbers expressed in scientific notation

Number Concepts: Lesson 2 – Expanded Notation

Compare and order real numbers

Number Concepts: Lesson 3 – Number Lines

Solve problems using estimation strategies

Number Concepts: Lesson 5 – Estimating

Simplify expressions containing exponents or radicals

Number Concepts: Lesson 11 – Simplifying Fractions

Solve problems using nonroutine strategies

Number Concepts: Lesson 14 - Finding the Missing Numbers in Equations
Number Concepts: Lesson 15 - Finding the Missing Numbers in Inequalities
Number Concepts: Lesson 16 - Missing Numbers in Related Number Sentences
Word Problems: Lesson - Needed Information

Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts through interaction with simple events, compound events, and experimental probability.

Analyze data and draw inferences from tables and graphs

Computation - Comparison: Renting a Car
Computation - Problem Solving: Planning a Pizza Party
Computation - Decision Making: A Job at the Ball Park
Word Problems - Comparison: Pondering Puddings
Measurement and Geometry - Problem Solving: Designing a Playground

Determine and use measures of central tendency and dispersion

Word Problems: Lesson 12 - Averages

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Identify and classify solid and plane figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Solve problems involving perimeter, circumference, area, or volume

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
Measurement and Geometry: Lesson 11 – Area and Volume
Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using spatial reasoning

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

Number Concepts: Lesson 1 – Place Values of Digits
Number Concepts: Lesson 2 – Expanded Notation
Number Concepts: Lesson 3 – Number Lines
Number Concepts: Lesson 4 – Rounding
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Number Concepts: Lesson 6 – Multiples and Factors
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Measurement and Geometry: Problem Solving: Designing a Playground

Estimation

Apply estimation strategies in problem solving and determine the reasonableness of results.

Number Concepts: Lesson 5 – Estimating

Mathematical Connections

Demonstrate an understanding of the interrelatedness of mathematical concepts, procedures, and processes both among different mathematical topics and with other content areas.

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TASK 3

Mathematics Problem Solving

Number Sense and Operations

Demonstrate understanding of the meaning and use of numbers, the various representations of numbers, number systems, and the relationships between and among numbers. Demonstrate understanding of the meaning of operations, the relationship between operations, and the practical settings in which a specific operation or set of operations is appropriate.

Identify alternate representations of real numbers

Measurement and Geometry: Lesson 6 – Roman Numerals

Simplify expressions containing exponents or radicals

Number Concepts: Lesson 11 – Simplifying Fractions

Compare and order real numbers

Number Concepts: Lesson 3 – Number Lines

Identify and apply properties of operations and real numbers

Number Concepts: Lesson 16 – Missing Numbers in Related Number Sentences
Number Concepts: Lesson 17 – The Commutative Property
Number Concepts: Lesson 18 – The Associative Property
Number Concepts: Lesson 19 – The Distributive Property
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Patterns, Relationships, and Algebra

Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Identify equivalent radical expressions

Number Concepts: Lesson 11 – Simplifying Fractions

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Describe, complete, continue, and demonstrate understanding of patterns involving numbers, symbols and geometric figures. Patterns with numbers include those found in lists, function tables, ratios and proportions, and matrices. Demonstrate understanding of algebraic principles through interaction with expressions, equations, algebraic notation, and other representations of mathematical relationships.

Solve problems involving patterns

Number Concepts - Induction: A Treasure Hunt

Data, Statistics, and Probability

Describe, interpret, and make predictions based on the analysis of data presented in a variety of ways, including graphs, plots, tables, and lists. Demonstrate an understanding of probability concepts through interaction with simple events, compound events, and experimental probability.

Analyze data and draw inferences from tables and graphs

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Determine and use measures of central tendency and dispersion

Word Problems: Lesson 12 - Averages

Geometry and Measurement

Demonstrate understanding of the characteristics and properties of plane and solid figures, coordinate geometry, and spatial reasoning. Demonstrate understanding of the meaning and use of various measurement systems, the tools of measurement, and the integral role of estimation in measurement.

Identify and classify solid and plane figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Solve problems involving perimeter, circumference, area, or volume

Measurement and Geometry: Lesson 10 – Perimeter of a Polygon
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Measurement and Geometry: Problem Solving: Designing a Playground

Solve problems using properties of geometric figures

Measurement and Geometry: Lesson 9 – Plane and Solid Figures

Process

Communication and Representation

Demonstrate an understanding of the symbols and terms utilized in mathematics, and correctly interpret alternative representations of numbers, expressions, and data.

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