

# Stanford Achievement Test 10

*Matched to*

## CornerStone and Learning MileStones Math 2

### Primary 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 numbers and sets to 1000**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

##### **Identify the place value of a digit in a whole number**

Understanding Numbers: Lesson 1 – Place Value

##### **Locate whole numbers on a number line**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

##### **Match number names and notation**

Understanding Numbers: Lesson 2 – Numbers and Word Names

##### **Match pictorial models to fraction names and notation**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

##### **Match place value models to number names and notation**

Understanding Numbers: Lesson 1 – Place Value

##### **Solve problems involving fraction concepts**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

##### **Solve problems using appropriate strategies**

Understanding Numbers: Lesson 1 – Place Value

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Solve problems using numerical reasoning**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Fractions and Percents: Lesson 1 – Equivalent Forms

### **Solve problems using place value concepts**

Understanding Numbers: Lesson 1 – Place Value

### **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 elementary algebraic principles as found in the relationships between mathematical situations and algebraic symbolism.

#### **Extend a numerical pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

#### **Identify missing elements in a numerical pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **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.

#### **Read and interpret tables and graphs**

Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 2 – Graphing Ordered Pairs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

#### **Solve problems involving tables and graphs**

Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 2 – Graphing Ordered Pairs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **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.

#### **Estimate or measure temperature using customary or metric units**

Understanding Numbers: Lesson 4 – Changes in Temperature

## **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.

- Understanding Numbers: Lesson 1 – Place Value
- Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

### **Estimation**

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

- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 6 – Compatible Numbers

### **Mathematical Connections**

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

- Understanding Numbers: Lesson 4 – Changes in Temperature
- Understanding Numbers: Lesson 5 – Time Zones
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

### **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.

- Understanding Numbers: Lesson 1 – Place Value
- Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers
- Understanding Numbers: Lesson 4 – Changes in Temperature
- Understanding Numbers: Lesson 5 – Time Zones
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 3 – Addition
- Using Whole Numbers: Lesson 4 – Subtraction
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

## **Mathematics Procedures**

### **Computation with Whole Numbers**

#### **Addition of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 3 – Addition

#### **Addition of whole numbers in context**

Using Whole Numbers: Lesson 3 – Addition

#### **Subtraction of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 4 – Subtraction

#### **Subtraction of whole numbers in context**

Using Whole Numbers: Lesson 4 – Subtraction

### **Computation in Context**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

### **Computation with Symbolic Notation**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

# Primary 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 number**

Understanding Numbers: Lesson 1 – Place Value

#### **Match number names and notation**

Understanding Numbers: Lesson 2 – Numbers and Word Names

#### **Match place value models to number names and notation**

Understanding Numbers: Lesson 1 – Place Value

#### **Match pictorial models to fraction names and notation**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

#### **Solve problems involving numerical concepts**

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

#### **Solve problems using estimation strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

#### **Compare and order whole numbers**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

#### **Compare and order whole or decimal numbers**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

#### **Identify alternative representations of whole numbers**

Understanding Numbers: Lesson 2 – Numbers and Word Names

## **Translate between visual representations, sentences and symbolic notation**

Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 8 – Equations  
Using Whole Numbers: Lesson 9 – Patterns and Sequences  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 2 – Graphing Ordered Pairs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

## **Solve problems involving rounding concepts**

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding

## **Solve problems using mathematical reasoning**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

## **Solve problems using appropriate strategies**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

## **Solve problems using nonroutine strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding

## **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 elementary algebraic principles as found in the relationships between mathematical situations and algebraic symbolism.

### **Identify missing elements in a visual pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Extend a numerical pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Identify missing elements in a numerical pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Solve simple algebraic equations**

Using Whole Numbers: Lesson 8 – Equations

## **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.

### **Read and interpret tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Solve problems involving tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

## **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 the concept of temperature**

Understanding Numbers: Lesson 4 – Changes in Temperature

### **Solve problems involving elapsed time**

Understanding Numbers: Lesson 5 – Time Zones

## **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.

- Understanding Numbers: Lesson 1 – Place Value
- Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 6 – Compatible Numbers
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

### **Estimation**

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

- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 6 – Compatible Numbers

### **Mathematical Connections**

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

- Understanding Numbers: Lesson 4 – Changes in Temperature
- Understanding Numbers: Lesson 5 – Time Zones
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 6 – Compatible Numbers
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

### **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.

- Understanding Numbers: Lesson 1 – Place Value
- Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers
- Understanding Numbers: Lesson 4 – Changes in Temperature
- Understanding Numbers: Lesson 5 – Time Zones
- Using Whole Numbers: Lesson 1 – Front-End Estimation
- Using Whole Numbers: Lesson 2 – Estimation by Rounding
- Using Whole Numbers: Lesson 3 – Addition
- Using Whole Numbers: Lesson 4 – Subtraction
- Using Whole Numbers: Lesson 5 – Multiplication
- Using Whole Numbers: Lesson 6 – Compatible Numbers
- Using Decimals: Lesson 1 – Addition of Decimals
- Using Decimals: Lesson 2 – Subtraction of Decimals
- Using Fractions and Percents: Lesson 1 – Equivalent Forms
- Working with Data: Lesson 1 – Bar Graphs
- Working with Data: Lesson 3 – Line Graphs
- Working with Data: Lesson 4 – Circle Graphs

## **Mathematics Procedures**

### **Computation with Whole Numbers**

#### **Addition of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 3 – Addition

#### **Addition of whole numbers in context**

Using Whole Numbers: Lesson 3 – Addition

#### **Subtraction of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 4 – Subtraction

#### **Subtraction of whole numbers in context**

Using Whole Numbers: Lesson 4 – Subtraction

#### **Multiplication of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 5 – Multiplication

#### **Multiplication of whole numbers in context**

Using Whole Numbers: Lesson 5 – Multiplication

### **Computation with Decimals**

#### **Addition of decimals using symbolic notation**

Using Decimals: Lesson 1 – Addition of Decimals

#### **Addition of decimals in context**

Using Decimals: Lesson 1 – Addition of Decimals

#### **Subtraction of decimals using symbolic notation**

Using Decimals: Lesson 2 – Subtraction of Decimals

#### **Subtraction of decimals in context**

Using Decimals: Lesson 2 – Subtraction of Decimals

### **Computation in Context**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

## **Computation with Symbolic Notation**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

# Intermediate 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 the place value of a digit in a whole number**

Understanding Numbers: Lesson 1 – Place Value

#### **Match number names and notation**

Understanding Numbers: Lesson 2 – Numbers and Word Names

#### **Match pictorial models to fraction names and notation**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

#### **Compare and order rational numbers**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

#### **Identify alternative representations of rational numbers**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

#### **Round whole numbers to a specified place value**

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

#### **Solve problems using place value concepts**

Understanding Numbers: Lesson 1 – Place Value

#### **Translate between visual representations, sentences and symbolic notation**

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 8 – Equations

Using Whole Numbers: Lesson 9 – Patterns and Sequences

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

#### **Solve problems using estimation strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

### **Solve problems using appropriate strategies**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Whole Numbers: Lesson 7 – Division  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Solve problems using numerical reasoning**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Whole Numbers: Lesson 7 – Division  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Solve problems using fractional concepts**

Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

### **Solve problems using nonroutine strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 6 – Compatible Numbers

## **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 elementary algebraic principles as found in the relationships between mathematical situations and algebraic symbolism.

### **Extend a numerical pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Identify missing elements in a visual pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Solve problems involving patterns**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Extend a numerical or geometric pattern**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Solve simple algebraic equations**

Using Whole Numbers: Lesson 8 – Equations

## **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.

### **Read and interpret tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Analyze tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Read and interpret tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Solve problems involving tables and graphs**

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

## **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 points on a coordinate grid**

Working with Data: Lesson 2 – Graphing Ordered Pairs

### **Solve problems involving the concept of time**

Understanding Numbers: Lesson 5 – Time Zones

### **Estimate or measure temperature using customary or metric units**

Understanding Numbers: Lesson 4 – Changes in Temperature

## **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.

Understanding Numbers: Lesson 1 – Place Value

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

### **Estimation**

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

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

### **Mathematical Connections**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

## **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.

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Whole Numbers: Lesson 7 – Division  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

## **Mathematics Procedures**

### **Computation with Whole Numbers**

#### **Addition of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 3 – Addition

#### **Addition of whole numbers in context**

Using Whole Numbers: Lesson 3 – Addition

#### **Subtraction of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 4 – Subtraction

#### **Subtraction of whole numbers in context**

Using Whole Numbers: Lesson 4 – Subtraction

#### **Multiplication of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 5 – Multiplication

#### **Multiplication of whole numbers in context**

Using Whole Numbers: Lesson 5 – Multiplication

#### **Division of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 7 – Division

#### **Division of whole numbers in context**

Using Whole Numbers: Lesson 7 – Division

## **Computation with Decimals**

### **Addition of decimals using symbolic notation**

Using Decimals: Lesson 1 – Addition of Decimals

### **Addition of decimals in context**

Using Decimals: Lesson 1 – Addition of Decimals

### **Subtraction of decimals using symbolic notation**

Using Decimals: Lesson 2 – Subtraction of Decimals

### **Subtraction of decimals in context**

Using Decimals: Lesson 2 – Subtraction of Decimals

## **Computation with Fractions**

### **Addition of fractions using symbolic notation**

Using Fractions and Percents: Lesson 2 – Addition of Fractions

### **Subtraction of fractions using symbolic notation**

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

### **Subtraction of fractions in context**

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

## **Computation in Context**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 7 – Division

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

## **Computation with Symbolic Notation**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 7 – Division

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

Using Fractions and Percents: Lesson 2 – Addition of Fractions

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

## 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**

Understanding Numbers: Lesson 1 – Place Value

##### **Identify alternative representations of rational numbers**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

##### **Compare and order rational numbers**

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

##### **Round whole numbers to a specified place value**

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

##### **Solve problems using estimation strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

##### **Match pictorial models to fraction names and notation**

Using Fractions and Percents: Lesson 1 – Equivalent Forms

##### **Translate between visual representations, sentences and symbolic notation**

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 8 – Equations

Using Whole Numbers: Lesson 9 – Patterns and Sequences

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 2 – Graphing Ordered Pairs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

##### **Solve problems using numerical reasoning**

Understanding Numbers: Lesson 1 – Place Value

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Whole Numbers: Lesson 7 – Division

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Decimals: Lesson 3 – Multiplication of Decimals  
Using Decimals: Lesson 4 – Division of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions  
Using Fractions and Percents: Lesson 4 – Multiplication of Fractions  
Using Fractions and Percents: Lesson 5 – Division of Fractions  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Solve problems using appropriate strategies**

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Understanding Numbers: Lesson 4 – Changes in Temperature  
Understanding Numbers: Lesson 5 – Time Zones  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 3 – Addition  
Using Whole Numbers: Lesson 4 – Subtraction  
Using Whole Numbers: Lesson 5 – Multiplication  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Whole Numbers: Lesson 7 – Division  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Decimals: Lesson 1 – Addition of Decimals  
Using Decimals: Lesson 2 – Subtraction of Decimals  
Using Decimals: Lesson 3 – Multiplication of Decimals  
Using Decimals: Lesson 4 – Division of Decimals  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Using Fractions and Percents: Lesson 2 – Addition of Fractions  
Using Fractions and Percents: Lesson 3 – Subtraction of Fractions  
Using Fractions and Percents: Lesson 4 – Multiplication of Fractions  
Using Fractions and Percents: Lesson 5 – Division of Fractions  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Solve problems using estimation strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 6 – Compatible Numbers

### **Solve problems using nonroutine strategies**

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 6 – Compatible Numbers

## **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**

Using Whole Numbers: Lesson 9 – Patterns and Sequences

### **Solve simple algebraic equations**

Using Whole Numbers: Lesson 8 – Equations

## **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.

### **Read and interpret tables and graphs**

Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 2 – Graphing Ordered Pairs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Analyze tables and graphs**

Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 2 – Graphing Ordered Pairs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

## **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 points on a coordinate grid**

Working with Data: Lesson 2 – Graphing Ordered Pairs

### **Solve problems involving elapsed time**

Understanding Numbers: Lesson 5 – Time Zones

## **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.

Understanding Numbers: Lesson 1 – Place Value  
Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers  
Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 6 – Compatible Numbers  
Using Fractions and Percents: Lesson 1 – Equivalent Forms  
Working with Data: Lesson 1 – Bar Graphs  
Working with Data: Lesson 3 – Line Graphs  
Working with Data: Lesson 4 – Circle Graphs

### **Estimation**

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

Using Whole Numbers: Lesson 1 – Front-End Estimation  
Using Whole Numbers: Lesson 2 – Estimation by Rounding  
Using Whole Numbers: Lesson 6 – Compatible Numbers

## **Mathematical Connections**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

## **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.

Understanding Numbers: Lesson 1 – Place Value

Understanding Numbers: Lesson 3 – Comparing and Ordering Numbers

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 1 – Front-End Estimation

Using Whole Numbers: Lesson 2 – Estimation by Rounding

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 6 – Compatible Numbers

Using Whole Numbers: Lesson 7 – Division

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

Using Decimals: Lesson 3 – Multiplication of Decimals

Using Decimals: Lesson 4 – Division of Decimals

Using Fractions and Percents: Lesson 1 – Equivalent Forms

Using Fractions and Percents: Lesson 2 – Addition of Fractions

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

Using Fractions and Percents: Lesson 4 – Multiplication of Fractions

Using Fractions and Percents: Lesson 5 – Division of Fractions

Working with Data: Lesson 1 – Bar Graphs

Working with Data: Lesson 3 – Line Graphs

Working with Data: Lesson 4 – Circle Graphs

## ***Mathematics Procedures***

### **Computation with Whole Numbers**

#### **Addition of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 3 – Addition

#### **Addition of whole numbers in context**

Using Whole Numbers: Lesson 3 – Addition

#### **Subtraction of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 4 – Subtraction

**Subtraction of whole numbers in context**

Using Whole Numbers: Lesson 4 – Subtraction

**Multiplication of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 5 – Multiplication

**Multiplication of whole numbers in context**

Using Whole Numbers: Lesson 5 – Multiplication

**Division of whole numbers using symbolic notation**

Using Whole Numbers: Lesson 7 – Division

**Division of whole numbers in context**

Using Whole Numbers: Lesson 7 – Division

**Computation with Decimals****Addition of decimals using symbolic notation**

Using Decimals: Lesson 1 – Addition of Decimals

**Addition of decimals in context**

Using Decimals: Lesson 1 – Addition of Decimals

**Subtraction of decimals using symbolic notation**

Using Decimals: Lesson 2 – Subtraction of Decimals

**Subtraction of decimals in context**

Using Decimals: Lesson 2 – Subtraction of Decimals

**Multiplication of decimals using symbolic notation**

Using Decimals: Lesson 3 – Multiplication of Decimals

**Multiplication of decimals in context**

Using Decimals: Lesson 3 – Multiplication of Decimals

**Division of decimals using symbolic notation**

Using Decimals: Lesson 4 – Division of Decimals

**Division of decimals in context**

Using Decimals: Lesson 4 – Division of Decimals

**Computation with Fractions****Addition of fractions using symbolic notation**

Using Fractions and Percents: Lesson 2 – Addition of Fractions

**Subtraction of fractions using symbolic notation**

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

**Subtraction of fractions in context**

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

### **Multiplication of fractions using symbolic notation**

Using Fractions and Percents: Lesson 4 – Multiplication of Fractions

### **Multiplication of fractions in context**

Using Fractions and Percents: Lesson 4 – Multiplication of Fractions

### **Division of fractions using symbolic notation**

Using Fractions and Percents: Lesson 5 – Division of Fractions

### **Division of fractions in context**

Using Fractions and Percents: Lesson 5 – Division of Fractions

## **Computation in Context**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Understanding Numbers: Lesson 5 – Time Zones

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 7 – Division

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

Using Decimals: Lesson 3 – Multiplication of Decimals

Using Decimals: Lesson 4 – Division of Decimals

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

Using Fractions and Percents: Lesson 4 – Multiplication of Fractions

Using Fractions and Percents: Lesson 5 – Division of Fractions

Using Fractions and Percents: Lesson 6 – Percent of a Number

## **Computation with Symbolic Notation**

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

Understanding Numbers: Lesson 4 – Changes in Temperature

Using Whole Numbers: Lesson 3 – Addition

Using Whole Numbers: Lesson 4 – Subtraction

Using Whole Numbers: Lesson 5 – Multiplication

Using Whole Numbers: Lesson 7 – Division

Using Decimals: Lesson 1 – Addition of Decimals

Using Decimals: Lesson 2 – Subtraction of Decimals

Using Decimals: Lesson 3 – Multiplication of Decimals

Using Decimals: Lesson 4 – Division of Decimals

Using Fractions and Percents: Lesson 2 – Addition of Fractions

Using Fractions and Percents: Lesson 3 – Subtraction of Fractions

Using Fractions and Percents: Lesson 4 – Multiplication of Fractions

Using Fractions and Percents: Lesson 5 – Division of Fractions