



# Southmoreland School District

## Third Grade Mathematics Curriculum Overview

### Third Grade Math Overview:

The third grade mathematics curriculum is divided into five modules: (1) Numbers and Operations including Fractions, (2) Algebraic Concepts (3) Measurement, Data, and Probability, (4) Geometry, and (5) Problem Solving. Third grade students apply place value and the use of operations to perform multi digit arithmetic. They develop an understanding of fractions as numbers. Students represent and solve problems involving multiplication and division as they develop an understanding of the properties of multiplication and the relationship between multiplication and division. In addition, students demonstrate multiplication and division fluency, solving problems using the four operations of multiplication, division, addition, and subtraction. The students identify, compare, and classify shapes and their attributes. They apply the use of fractions by partitioning shapes into equal parts by representing those equal parts as a unit or fraction of the whole. Students solve problems involving measurement, estimation of temperature, liquid volume, mass, or length. The students write and tell time to the nearest minute and then solve problems by calculating time intervals. They solve problems and make change involving money using a combination of bills and coins. They students find the area of a rectangle and the perimeter of a polygon. Finally, students use charts, pictographs and bar graphs to interpret data.

### Module Titles:

**Module 1:** Numbers and Operations including Fractions

**Module 2:** Algebraic Concepts

**Module 3:** Measurement, Data, and Probability

**Module 4:** Geometry

**Module 5:** Problem Solving

### Module Overviews:

#### **Module 1: Numbers and Operations including Fractions**

The goal of this module is for students to develop an understanding of fractions as numbers. Third grade students continue using place value and the properties of operations to perform multi-digit arithmetic. Finally, students develop an understanding of what a fraction is, represent fractions on a number line, recognize and generate equivalent fractions, and use symbols to compare fractions.

#### **Module 2: Algebraic Concepts**

The goal of this module is for students to understand the relationship between the properties of multiplication and division to solve problems. Third grade students



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interpret and describe products of whole numbers, quotients, dividends, and divisors. Students use multiplication to solve word problems in situations involving equal groups, arrays, and/or measurement quantities. In addition, students determine the unknown whole number in a multiplication or division equation relating to three whole numbers. The students demonstrate an understanding of the commutative and associative properties of multiplication to represent and solve problems. They interpret division as a multiplication equation with an unknown factor. Finally, students solve two step word problems involving the four basic mathematical operations, and identify the missing symbol (+, −, ×, ÷, <, >, and =) that makes a number sentence true.

### **Module 3: Measurement, Data, and Probability**

The goal of this module is for students to solve problems with measurement and estimation for time, liquid volume, mass, length, perimeter and area and to represent and interpret data. Third grade students solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects. They determine or calculate time and elapsed time. Students recognize geometric measurements of perimeter as an attribute of plane figures and distinguish between linear and area measures. In addition, students understand concepts of area and relate area to multiplication and to addition. The students use the attributes of liquid volume, mass, and length of objects in standard units. They add, subtract, multiply, and divide to solve one and two step word problems involving masses or liquid volumes that are given in the same units. Students represent and interpret data displayed in a bar graph, pictograph, or line plot. The students translate information from a pictograph, tally chart, bar graph, and table. Finally, students count, compare, and make change using a collection of coins and one-dollar bills.

### **Module 4: Geometry**

The goal of this module is for students to reason with shapes and their attributes. Third grade students analyze characteristics of polygons as they explain shapes in different categories that may share attributes and the shared attributes can define a larger category of quadrilaterals. Finally, students partition shapes into parts with equal areas, expressing the area of each part as a unit or fraction of the whole.

### **Module 5: Problem Solving**

The goal of this module that is integrated throughout the year is for students to use strategies that enable us to solve problems. Third grade students develop problem solving and reasoning strategies that are essential in developing conceptual understanding of problem solving. Finally, students explore the following strategies and key concepts: using objects, drawing a picture, writing a number sentence, identifying



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two question problems, using data from a chart, looking for a pattern, identifying missing or extra information, using logical reasoning, using reasoning, making an organized list, using the process of trying, checking, and revising their solutions, and using a graph.