

## **GRADE 4 MATHEMATICS**

The purpose of the Fourth Grade Math program is to continue building mathematical knowledge for future concepts, based on concepts already learned, as well as introducing new concepts. Our program uses a unit approach, provides continuous review, practice and enrichment.

### **Place Value and Money**

Students will:

- Recognize and identify different uses of numbers
- Read, write, and identify place value of digits in whole numbers through hundred millions
- Compare, order, and round whole numbers and money
- Find and compare values of collections of bills and coins; make change
- Solve problems using skills and strategies

### **Operations and Algebraic Reasoning**

Students will:

- Use addition properties and subtraction rules
- Estimate, add, and subtract three-, four-, five-, and six-digit whole numbers
- Use multiplication properties and division rules
- Multiply and divide by 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12
- Write expressions and equations, evaluate expressions and functions, and solve equations; use order of operations
- Solve problems using skills and strategies

### **Multiplication of Whole Numbers**

Students will:

- Use mental math to multiply multiples of 10
- Estimate products
- Multiply two-, three-, four-, and five-digit numbers by one-digit numbers
- Multiply two-, three-, four-, and five-digit numbers by two-digit numbers
- Solve problems using skills and strategies

### **Division of Whole Numbers**

Students will:

- Use mental math to divide multiples of 10
- Estimate and divide two-, three-, four-, and five-digit dividends by one digit divisors; divide money
- Find factors and multiples of a number; identify prime and composite numbers
- Find the average of a set of numbers
- Estimate and divide two-, three-, four-, and five-digit dividends by two-digit divisors
- Solve problems using skills and strategies

## **Measurement and Graphing**

Students will:

- Estimate, measure, compare, and convert customary and metric units of length, capacity, and weight/mass.
- Determine elapsed time using clocks and calendars.
- Read, write, and compare temperatures in degrees Fahrenheit and degrees Celsius.
- Collect, organize, and analyze data; find mean, median, mode, and range.
- Make, read, and interpret line plots, stem-and-leaf plots, bar graphs, circle graphs, and line graphs.
- Solve problems using skills and strategies.

## **Geometry and Measurement**

Students will:

- Identify, classify, and describe plane figures.
- Identify congruent figures and figures with line and rotational symmetry.
- Identify, perform, and predict the results of rotations, reflections, and translations.
- Estimate and find perimeter, area, and volume.
- Identify, classify, and describe solid geometric figures.
- Solve problems using skills and strategies.

## **Fractions and Decimals**

Students will:

- Identify parts of regions and groups; find fractional parts of a group; find equivalent fractions.
- Identify and write mixed numbers.
- Compare and order fractions.
- Add and subtract fractions and mixed numbers with like denominators; use models to add and subtract fractions with unlike denominators.
- Write fractions and mixed numbers as decimals and vice versa.
- Identify, compare, order, and round decimals.
- Estimate, add, and subtract decimals to thousandths.
- Solve problems using skills and strategies.

## **Probability/Algebra and Graphing**

Students will:

- Describe the probability of an event and determine the number of possible outcomes in an experiment.
- Use probability to make predictions.
- Use tables, graphs, and tree diagrams to represent probability outcomes.
- Locate, identify, and graph points on a coordinate plane; graph lines.
- Write integers.

- Solve problems using skills and strategies.

### **Materials**

The materials used for the 4<sup>th</sup> grade math program are Houghton Mifflin Math textbook (2007 edition), and Houghton Mifflin resources.

### **Instruction**

All concepts are introduced by using many various methods and strategies. The following type of strategies or instruction methods are used to present the above topics:

- **Assessing prior knowledge using “Problem of the Day”**
- **Whole class instruction**
- **Small group instruction**
- **Cooperative learning groups**
- **Individual instruction**
- **Using white boards for individualized assessment**
- **Using manipulatives**
- **Illustration of problems for visual aids**
- **Acting out problems**
- **Creating stories to explain problems**
- **Writing and practicing various algorithms**
- **Guided Practice activities and problems**
- **Practice activities and problems**
- **Enrichment activities and problems**
- **Formal and Informal Assessments**
- **Games**
- **SMARTboard instruction and activities**

Updated by Jenn Andrewchuk and Donna Sullivan on February 9, 2011