

## **Fourth Grade Math Curricula**

The fourth grade Mathematics Curriculum focuses on five process strands: problem solving, reasoning and proof, mathematical communication, connections, and representations. Interweaved into these process strands are five content strands: number sense and operations, algebra, geometry, measurement, and statistics and probability. The entwining of these content strands and process strands will allow our children to become mathematically proficient in conceptual understanding, procedural fluency and problem solving. Our district's Mathematics Curriculum has been aligned with the revised New York State Standards for Mathematics. <http://www.emsc.nysed.gov>

### **CONTENT STRANDS**

#### **Number Sense and Operations**

- Relate counting to grouping and place value up to the 10,000
- Add, subtract, multiply, divide and check by using inverse operation
- Develop a wide variety of strategies for estimating addition, subtraction, multiplication and division problems
- Round numbers to the nearest ten and hundred
- Understand the communicative and associate properties
- Review multiplication and multiply up to 2 digits by 2 digits
- Review division facts with dividends up to 2 digits and find quotients with and without remainders
- Recognize and generate equivalent fractions using manipulative, visual models and illustrations
- Add and subtract fractions with common denominators
- Use manipulatives to model numbers and number relationships for whole numbers and commonly used fractions and decimals
- Develop an understanding of decimals as part of a whole
- Read and write decimals as part of a whole
- Develop an understanding of the properties of odd/even numbers as a result of multiplication
- Develop fluency in multiplying and dividing multiples of 10 and 100 up to 1,000

#### **Algebra**

- Evaluate and express relationships using open sentences with one operation
- Use the symbols  $<$ ,  $>$ ,  $=$ , and  $\neq$  (with and without the use of number line) to compare whole numbers and unit fractions and decimals up to hundredths
- Find the value or values that will make inequalities true
- Describe, extend, and make generalizations about numeric and geometric patterns
- Analyze a pattern or whole-number function and state the rule, given a table or an input/output box

#### **Geometry**

- Explore and develop relationships among two and three dimensional figures
- Use manipulatives, pictures, and diagrams to understand geometric figures

- Identify points and line segments when drawing a plane figure
- Draw and identify intersecting, perpendicular, and parallel lines
- Identify points and rays when drawing angles
- Classify angles as acute, obtuse, right and straight

### Measurement

- Select appropriate standard and non-standard measurement tools in measurement activities
- Understand the equivalent measures within the standard and metric systems
- Use a ruler to measure to the nearest standard unit
- Make change, using combined coins and dollar amounts
- Calculate elapsed time in hours and half hours, days and weeks

### Statistics and Probability

- Use statistical methods such as graphs, tables and charts to interpret data
- Collect data using observations, surveys, and experiments and record appropriately
- Read and interpret line graphs
- Develop and make predictions that are based on data
- Formulate conclusions and make predictions from graphs