# 5th Grade Math Syllabus

| Investigations/CMP Units Covered | Math Concepts |
| --- | --- |
| **Invest. Unit 1, 7**<br>**(Decimal algorithms)** | <ul><li>Fluently multiply multi-digit whole numbers</li><li>Divide up to 4-digit whole numbers by up to 2-digit whole numbers.</li><li>Interpret numerical expressions using manipulatives, pictures, language, and/or real-life situations.</li><li>Evaluate expressions containing parentheses, brackets and braces and using appropriate order of operations</li><li>Use concrete models, pictorial representations, written symbols, and language to show multiplication and division of decimals to hundredths.</li><li>Fluently multiply and divide multi-digit decimals.</li><li>Solve real world problems involving multiplication and division of decimals.</li></ul> |
| **Invest. Unit 2**<br>**(Volume of three-dimensional figures)** | <ul><li>Define volume as the measurement of the space inside a solid three-dimensional figure.</li><li>Measure volumes by counting cubes with manipulatives and pictures using cubic cm., cubic in., cubic ft., and improvised units.</li><li>Apply the formula to find volumes of right rectangular prisms with whole number edge lengths in real world and mathematical problems.</li></ul> |
| **Invest. Unit 3**<br>**(Numbers sense for multi-digit numbers)** | <ul><li>Read, write, and sequence numbers up to 100,000.</li><li>Solve large addition and subtraction problems.</li><li>Model and explain that the value of a digit changes as you move to the left or right using manipulatives, pictures, and/or language</li></ul> |
| **Bits and Pieces I**<br>**(Understanding rational numbers)** | <ul><li>Building an understanding of fractions, decimals, and percents</li><li>Develop an understanding of how fractions, decimals, and percents are related.</li><li>Use equivalent fractions, order fractions, develop benchmark fractions, and look for patterns within fractions</li><li>Use physical models to reason about</li></ul> |

| | |
|---|---|
| | • fractions<br>• Use fractions for estimation |
| **Invest. Unit 5**<br>**(Identifying two-dimensional shapes)** | • Identify two-dimensional shapes that can be classified into more than one category based on their attributes.<br>• Classify two-dimensional figures in a hierarchy based on properties |
| **Bits and Pieces II, Supplement with additional rounding if needed**<br>**(Understanding fraction operations)** | • Use benchmark fractions to estimate the results of fraction operations<br>• Develop models for multiplying and dividing fractions<br>• Use estimates and exact answers to make decisions<br>• Develop algorithms for multiplying and dividing fractions<br>• Identify fact families to show inverse relationships between addition and subtraction and multiplication and division |
| **Invest. Unit 8**<br>**(Coordinate graphing and number patterns)** | • Generate two numerical patterns using two given rules.<br>• Identify numerical relationships between corresponding terms in 2 different expressions<br>• Form ordered pairs from the two patterns.<br>• Graph the ordered pairs on the coordinate plane.<br>• Write simple expressions that record calculations with numbers<br>• Describe the relationship between two different expressions.<br>• Explain how to plot points on the coordinate plane. |
| **Data About Us**<br>**(Statistics)** | • Use data to investigate a situation, draw conclusions and make decisions<br>• Collect and analyze data<br>• Compute mean, median, and mode<br>• Develop an understanding for the measures of central tendency and be able to compare data<br>• Understand categorical data verse numerical data |