

# Math Curriculum Map for Number Theory and Computational Fluency

	September	October	November	December	January	
Unit Name or Theme	THE DECIMAL SYSTEM	NUMBER THEORY >>	<< NUMBER THEORY	FRACTIONS AND >>	<< PERCENTS	Unit Name or Theme
Enduring Understandings and Performance Indicators	<p>The decimal system represents numbers, relationships among numbers and number systems</p> <p>Estimation is based on reasonable results</p> <p>Mathematical operations relate to one another</p> <p>I can problem solve based on previous experiences, logic, estimation, perseverance and strategies</p> <p>I can communicate mathematical thinking and reasoning with precision, coherence and clarity</p>	<p>I can use appropriate tools strategically</p> <p>Standard algorithms assist me in adding, subtracting, multiplying and dividing decimals</p> <p>Whole numbers can be manipulated within the distributive property</p> <p>The associative and commutative properties can be utilized to simplify computations</p> <p>Numbers share relationships</p>	<p>Decimals can be converted into fractions and percentages</p> <p>Ratio concepts and reasoning can assist me in solving mathematical problems</p>	<p>Relationships exist among fractions, decimals and percentages</p> <p>Fractions demonstrate numbers, decimals, measurements and percentages</p> <p>Fractions can be expressed with improper and proper representation</p>	<p>Percentages represent values and can be compared with whole numbers, data sets and information</p> <p>Numerical values can be communicated in mathematical terms</p>	Enduring Understandings and Performance Indicators
Essential Questions	<p>How can I monitor and reflect upon the process of mathematical problem solving?</p> <p>What strategies can I apply to solve problems?</p> <p>How do I present a mathematical argument?</p> <p>How do I apply the proper reasoning and terminology to a mathematical situation?</p>	<p>How do I identify a number as prime or composite?</p> <p>What is the difference between a factor and a multiple?</p> <p>How can factors be used?</p> <p>What is the difference between LCM and the GCF?</p>	<p>How can mathematical situations and problems be represented?</p> <p>How can operations relate to one another?</p> <p>What is unit rate and how is it associated with ratio?</p>	<p style="text-align: center;">What is a fraction?</p> <p>How can numbers have different numbers and the same value?</p> <p>How can I demonstrate the connection among fractions, decimals and percentages?</p> <p>Why are mixed numbers “mixed”?</p> <p>What makes a fraction “improper”?</p>	<p>What is a percent?</p> <p>How can I determine differences among pricing (i.e. discounts)?</p>	Essential Questions

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Assessment Strategies Formative & Summative	<p>Quizzes Tests Group project Paper/pencil class work Homework Textbook exams</p>	<p>Paper/pencil class work Homework Ongoing assessments</p>	<p>Paper/pencil class work Homework Group and individual assessments</p>	<p>Paper/pencil class work Homework Textbook assessments</p>	<p>Paper/pencil class work Homework Textbook assessments</p>	Assessment Strategies Formative & Summative
Instructional Skills and Strategies	<p><b>Instructional Skills and Strategies:</b> Name, compute, order and round decimals</p> <p>Relate exponential notation</p> <p>Compare place value</p> <p>Add and subtract decimals</p> <p>Estimate</p> <p>Solve problems</p>	<p><b>Instructional Skills and Strategies:</b> Define and identify multiples and factors of numbers 1-30</p> <p>Distinguish between composite and prime factors</p> <p>List multiples of numbers</p> <p>Identify greatest common factor and least common multiple</p> <p>Test for divisibility using rules</p> <p>Square numbers; identify square roots</p>	<p><b>Instructional Skills and Strategies:</b> Compare decimals to fractional benchmarks</p> <p>Shade grids to represent fractions as decimals</p> <p>Use rate language in context</p> <p>Associate unit rate and ratio in mathematical word problems</p> <p>Solve unit rate problems including those determining unit speed</p> <p>Find the percent of a quantity as a rate per 100</p> <p>Use ratio reasoning to convert measurement units</p>	<p><b>Instructional Skills and Strategies:</b> Name and reduce fractions to lowest terms</p> <p>Compare fractions; ordering from smallest to largest</p> <p>Add, subtract, multiply and divide fractions</p> <p>Create fraction strips</p> <p>Find fractional parts of whole number quantities</p> <p>Compare and order fractions</p> <p>Find fractions between two given fractions</p> <p>Change improper fractions to mixed numbers</p> <p>Add, subtract, multiply and divide mixed numbers</p>	<p><b>Instructional Skills and Strategies:</b> Solve problems with ratios and proportions</p> <p>Shade, construct, deconstruct ratios</p> <p>Identify proportions</p> <p>Solve percent problems</p> <p>Use concrete objects to represent fractions and percentages</p> <p>Convert fractions to decimals and percents</p> <p>Utilize “shortcut” strategies (e.g. tables)</p> <p>Describe ratio relationships between two quantities</p> <p>Use ratios to solve real world problems</p>	Instructional Skills and Strategies
Primary Resources	<p>Houghton-Mifflin Mathematics: Structure and Method Course I (selected chapters)</p>	<p>Houghton-Mifflin Mathematics: Structure and Method Course I (selected chapters)</p>	<p>Houghton-Mifflin Mathematics: Structure and Method Course I (selected chapters)</p>	<p>Houghton-Mifflin Mathematics: Structure and Method Course I (selected chapters)</p>	<p>Houghton-Mifflin Mathematics: Structure and Method Course I (selected chapters)</p>	Primary Resources

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Links with CCSS/NCTM	CCSS 6.NS.3, 6.NS.4 NCTM Number and Operations, Problem Solving, Communication, Connection, Representation, Reasoning and Proof	CCSS 6.NS.2 NCTM Number and Operations, Problem Solving, Communication, Connections, Representation, Reasoning and Proof	CCSS 6.NS.2, 6.RP. 1, 6.RP.2, 6.RP.3bcd NCTM Numbers and Operation Standard, Algebra, Communication, Connections, Representation, Reasoning and Proof	CCSS 6.SP.1 NCTM , Data Analysis and Probability, Problem Solving, Reasoning and Proof Communication, Connections, Representation	CCSS 6.SP.1, 6.RP.1, 6.RP.2, 6RP.3abcd NCTM Data Analysis and Probability, Problem Solving, Communication, Connections, Representation, Reasoning and Proof	Links with CCSS/NCTM
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