

Math Curriculum Map for Introduction to High School Algebra

	January	February	March	April	May/June	
Unit Name or Theme	Introduction to Algebra	Intro continued...	Working with Real Numbers	Solving Equations and Problems	Solving continued...	Unit Name or Theme
Enduring Understandings and Performance Indicators	<p>Variables can be identified and defined</p> <p>Expressions can be stated in mathematical terms</p> <p>Equations can be solved</p> <p>Numerical expressions can be solved</p> <p>Algebraic expressions can be evaluated</p> <p>Algebra can be applied in real world context</p>	<p>Mathematical phrases can be translated into algebraic expressions</p> <p>Mathematical formulas can be evaluated</p> <p>Sentences can be translated into equations</p> <p>Problems (real world or construed) can be translated into equations</p> <p>Rational numbers can be compared and ordered (not defined)</p> <p>I can apply algebraic strategies to solve real-world mathematical problems</p>	<p>Relationships exist between symbolic expressions</p> <p>Variables represent numbers and sets known and unknown</p> <p>Terms and factors can be identified</p> <p>Properties of Equality can be defined</p> <p>Basic Assumptions and Properties of Addition and Multiplication can be applied</p> <p>Properties of Operations define equivalent expressions</p> <p>Expressions can be simplified</p>	<p>Integer word problems can be interpreted and translated</p> <p>Expressions can be simplified</p> <p>Mathematic operations and properties relate to one another</p>	<p>Equations can be transformed using mathematical operations</p>	Enduring Understandings and Performance Indicators
Essential Questions	<p>What strategies can I apply to solve problems?</p> <p>How do I apply the proper reasoning and terminology to an algebraic situation?</p> <p>How do I evaluate numerical and algebraic expressions with symbols?</p> <p>Why do I solve one-step equations with solution sets?</p>	<p>How can I develop and evaluate expressions?</p> <p>What are ways to express mathematical terms, phrases and problems into algebraic equations?</p> <p>How can I apply algebraic strategies to solve equations and problems?</p>	<p>How does mathematics relate to algebraic expressions?</p> <p>How can I apply what I know mathematically to what I am learning algebraically?</p> <p>What properties should be applied to simplify expressions?</p> <p>What rules should I apply in solving algebraic expressions?</p>	<p>What strategies can I apply in solving algebraic equations?</p> <p>How can I apply properties of operations in generating equivalent equations?</p> <p>How can I translate integer word problems in solving algebraic expressions?</p>	<p>What rules should I apply in solving algebraic problems?</p> <p>How can I transform equations?</p> <p>How do charts assist me in solving problems?</p>	Essential Questions

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Assessment Strategies Formative & Summative	Quizzes (daily or weekly) Class work Everyday Math assessments Homework	Quizzes (daily or weekly) Text assessments Paper/pencil class work Homework	Quizzes (daily or weekly) Text assessments Paper/pencil class work Homework	Quizzes (daily or weekly) Text assessments Paper/pencil class work Homework	Quizzes (daily or weekly) Text assessments Paper/pencil class work Homework	Assessment Strategies Formative & Summative
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Instructional Skills and Strategies	<p>Instructional Skills and Strategies: Evaluate variables</p> <p>Check solutions</p> <p>Translate words into expressions or equations</p> <p>Define and identify numerical expressions</p> <p>Define and identify algebraic expressions</p> <p>Evaluate numerical expressions with grouping symbols</p> <p>Evaluate algebraic expressions with grouping symbols</p> <p>Apply order of operations</p> <p>Identify and define open sentence, domain, solution/ root, solution set</p> <p>Solve one-step equations with a solution set</p> <p>Analyze and solve word or real-life mathematical problems</p>	<p>Instructional Skills and Strategies: Translate phrases into algebraic expressions</p> <p>Evaluate formulas for area, perimeter, distance and cost</p> <p>Translate sentences into equations</p> <p>Translate word problems into equations</p> <p>Translate word problems with solution sets into equations and mathematical solutions</p> <p>Identify and define sets of numbers (i.e. integers, whole numbers, real numbers)</p> <p>Identify numbers on a number line</p> <p>Compare and order rational numbers</p> <p>Determine absolute value</p> <p>Compare, add, subtract and evaluate additive inverses</p> <p>Analyze and solve real-life problems with equations</p>	<p>Instructional Skills and Strategies: Add and subtract integers</p> <p>Identify terms and factors</p> <p>Apply Basic Assumptions/Properties of Addition and Multiplication (i.e. closure, commutative, associative)</p> <p>Apply Properties of Equality (i.e. reflexive, symmetric, transitive)</p> <p>Identify Property of Addition</p> <p>Identify Property of Opposites (i.e. Additive Inverse Property)</p> <p>Identify Property of the Opposite of a Sum</p> <p>Add and subtract on a number line</p> <p>Apply rules for addition</p> <p>Define rules for subtraction</p> <p>Apply Distributive Property of Multiplication with respect to addition and subtraction</p> <p>Simplify expressions using the distributive property</p> <p>Identify Property of Multiplication</p> <p>Identify Multiplicative Property of Zero</p> <p>Identify Multiplicative Property of -1</p> <p>Apply Property of Opposites in Products</p> <p>Simplify expressions</p>	<p>Instructional Skills and Strategies: Translate integers into word problems</p> <p>Translate integers into equations and solve with a given domain</p> <p>Apply Property of Reciprocals (i.e. Multiplicative Inverses)</p> <p>Identify Property of the Reciprocal of the Opposite of a Number</p> <p>Define division</p> <p>Apply rules for division</p> <p>Simplify and evaluate expressions with division</p>	<p>Instructional Skills and Strategies: Transform equations using addition and subtraction</p> <p>Apply Addition Property of Equality</p> <p>Apply Subtraction Property of Equality</p> <p>Transform by substitution, addition and subtraction</p> <p>Write equations to solve one-step problems (e.g. addition, subtraction)</p> <p>Transform equations with multiplication and division</p> <p>Use several transformations (i.e. multi-step equations)</p> <p>Write equations to solve word problems (variables on both sides)</p> <p>Solve problems using charts</p> <p>Use charts to write equations</p> <p>Solve cost, income and value problems</p> <p>Determine proofs in algebra using definitions and properties</p>	Instructional Skills and Strategies
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Primary Resources	Textbook: Houghton Mifflin's Algebra Structure and Method Book 1 Tests, Copy masters and supplementary material by text resources	Textbook: Houghton Mifflin's Algebra Structure and Method Book 1 Tests, Copy masters and supplementary material by text resources	Textbook: Houghton Mifflin's Algebra Structure and Method Book 1 Tests, Copy masters and supplementary material by text resources	Textbook: Houghton Mifflin's Algebra Structure and Method Book 1 Tests, Copy masters and supplementary material by text resources	Textbook: Houghton Mifflin's Algebra Structure and Method Book 1 Tests, Copy masters and supplementary material by text resources	Primary Resources
Links with CCSS/NCTM	CCSS 6.NS.2, 6.EE.1, 6.EE.2abc, 6.EE.3, 6.EE.5, 6.EE.6, 6.EE.7, 6.EE.9 NCTM Algebra, Problem Solving, Communication, Connection, Representation, Reasoning and Proof	CCSS 6.EE.1, 6.EE.2abc, 6.EE.5, 6.EE.6, 6.EE.9 NCTM Algebra, Problem Solving, Communication, Connections, Representation, Reasoning and Proof	CCSS 6.EE.1, 6.EE.2abc, 6.EE.6, 6.EE.9 NCTM Number and Operations, Algebra, Communication, Connections, Representation, Reasoning and Proof	CCSS 6.EE.3, 6.EE.4 NCTM , Algebra, Number and Operations, Problem Solving, Reasoning and Proof Communication, Connections, Representation	CCSS 6.EE.2c NCTM Algebra, Problem Solving, Communication, Connections, Representation, Reasoning and Proof	Links with CCSS/NCTM