

CURRICULUM MAP

Course: Math 9

Grade Level: 9

Month	Essential Question	Content	Skills	Assessment	Standard(s)
September/October	<ul style="list-style-type: none"> -What are the similarities and differences between algebraic and arithmetic functions? -What are some ways to represent, describe, and analyze patterns (that occur in our world)? -When is one representation of a function more useful than another? -Why are number and algebraic patterns important as rules? -How are arithmetic operations related to functions? -How can numeric operations be extended to algebraic objects? -Why is it useful to represent real-life situations algebraically? 	The Real Number System and Quantity	<ul style="list-style-type: none"> -A review of basic mathematical and Pre-algebra concepts. -define and use the real number system -determine and use mathematical properties -Use a variety of problem solving strategies, including using a formula, using tables and graphs, and looking for a pattern, to solve real-life problems involving topics such as geometry and space. 	<ul style="list-style-type: none"> Teacher-made Performance Tasks Differentiated Instructional Activities Teacher-directed SmartBoard activities Group Activities Homework assignments Tests/quizzes 	N-RN, 2,3; N-Q, 1-3 F-IF.1-2, F-IF.4-7a, F-IF.9, F-LE.1.a-b, F-LE.5,

Month	Essential Question	Content	Skills	Assessment	Standard(s)
November/December	<p>-How is an equation analogous to a balance?</p> <p>-What are the similarities and differences between algebraic and arithmetic functions?</p> <p>-What are some ways to represent, describe, and analyze patterns (that occur in our world)?</p> <p>-When is one representation of a function more useful than another?</p> <p>-How can we use algebraic representation to analyze patterns?</p> <p>-Why are number and algebraic patterns important as rules?</p>	Simple Equations	<p>-model and solve 1- and 2-step equations</p> <p>-apply proportions to real-world problems</p> <p>-model and solve 1- and 2-step equations</p> <p>-apply proportions to real-world problems with variables on both sides of the equals</p> <p>-interpret and solve absolute value problems</p>	<p>Teacher-made</p> <p>Performance Tasks</p> <p>Differentiated Instructional Activities</p> <p>Teacher-directed SmartBoard activities</p> <p>Group Activities</p> <p>Homework assignments</p> <p>Tests/quizzes</p>	<p>N-RN. 2,3; N-Q. 1-3;</p> <p>A-SSE.1-2;</p> <p>A-APR.1, A-CED.1-4, A-REI.1-3, A-REI.10, F-IF.1-2, F-IF.4-7a, F-IF.9, F-LE.1.a-b, F-LE.5,</p>

Month	Essential Question	Content	Skills	Assessment	Standard(s)
January/February	<ul style="list-style-type: none"> -How is an equation analogous to a balance? -How do inequalities compare to simple equations? -What are some ways to represent, describe, and analyze patterns (that occur in our world)? -When is one representation of a function more useful than another? -How can we use algebraic representation to analyze patterns? 	Simple Equations and Inequalities	<ul style="list-style-type: none"> - solve inequalities -write and solve multi-step equations and inequalities with variables on both sides of the equals or inequality symbols -validate solutions to equations and inequalities 	<ul style="list-style-type: none"> Teacher-made Performance Tasks Differentiated Instructional Activities Teacher-directed SmartBoard activities Group Activities Homework assignments Tests/quizzes 	<ul style="list-style-type: none"> N-RN. 2,3; N-Q. 1-3; A-SSE.1-2; A-APR.1, A-CED.1-4, A-REI.1-3, A-REI.10, F-IF.1-2, F-IF.4-7a, F-IF.9, F-LE.1.a-b, F-LE.5

Month	Essential Question	Content	Skills	Assessment	Standard(s)
March	<ul style="list-style-type: none"> -How is an equation analogous to a balance? -How do inequalities compare to simple equations? -What are the similarities and differences between algebraic and arithmetic functions? -How do inequalities compare to simple equations? -How can we use algebraic representation to analyze patterns? -Why are number and algebraic patterns important as rules? -Why is slope a foundational concept? 	<p>Equations and Inequalities</p> <p>Graphing and Writing Linear Equations</p>	<ul style="list-style-type: none"> -identify and graph linear equations using slope-intercept form -express an equation in a variety of forms (e.g., standard form, slope-intercept) -graph equations using different methods 	<ul style="list-style-type: none"> Teacher-made Performance Tasks Differentiated Instructional Activities Teacher-directed SmartBoard activities Group Activities Homework assignments Tests/quizzes 	<p>N-RN. 2,3; N-Q. 1-3;</p> <p>A-SSE.1-2;</p> <p>A-APR.1, A-CED.1-4, A-REI.1-3, A-REI.10, F-IF.1-2, F-IF.4-7a, F-IF.9, F-LE.1.a-b, F-LE.5</p>

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April/May	<ul style="list-style-type: none"> -What is the significance of a solution to a system of equations? -How do inequalities compare to simple equations? -What are the applications of exponential numbers? -How do inequalities compare to simple equations? -How can we use algebraic representation to analyze patterns? -Why are number and algebraic patterns important as rules? -How can we determine the shape and tendency of an equation using standard form? 	<ul style="list-style-type: none"> Systems of Equations and Inequalities Quadratic Functions Exponents and Exponential Functions 	<ul style="list-style-type: none"> -solve linear systems using multiple methods (e.g., graphing, substitution, elimination) -graph a quadratic equation - solve quadratic functions using the quadratic formula and square roots -perform computations using numbers expressed in scientific notation -simplify using the properties of exponents -analyze exponential growth and decay 	<ul style="list-style-type: none"> Teacher-made Performance Tasks Differentiated Instructional Activities Teacher-directed SmartBoard activities Group Activities Homework assignments Tests/quizzes 	<ul style="list-style-type: none"> N-RN. 2,3; N-Q. 1-3; A-SSE.1-2; A-APR.1, A-CED.1-4, A-REI.1-3, A-REI.10, F-IF.1-2, F-IF.4-7a, F-IF.9, F-LE.1.a-b, F-LE.5, G-GMD.3, IF-8.b, N-VM.6-8, S-CO.1, S-SRT.5, S-SPE.5-6, S.ID.7

Month	Essential Question	Content	Skills	Assessment	Standard(s)
June	<p>-What is the significance of a solution to a system of equations?</p> <p>-How do radical expressions expand mathematical possibilities?</p> <p>-How can we use algebraic representation to analyze patterns?</p> <p>-Why do different approaches yield valid solutions?</p>	<p>Solving Radical Equations</p> <p>Polynomials and Rational Expressions</p>	<p>-apply the Pythagorean theorem</p> <p>- apply the distance and midpoint of a segment</p> <p>-simplify and solve radical expressions</p> <p>-add and subtract polynomial expressions</p> <p>-factor polynomials using different methods (e.g., Pascal's Triangle)</p> <p>- simplify rational expressions</p>	<p>Teacher-made</p> <p>Performance Tasks</p> <p>Differentiated Instructional Activities</p> <p>Teacher-directed SmartBoard activities</p> <p>Group Activities</p> <p>Homework assignments</p> <p>Tests/quizzes</p>	<p>A-APR.1, A-APR.3, A-CED.1-4, A-REI.1-3, A-REI.4.b, A-REI.5-6, A-REI.11-12, A-RET.10, A-SSE.1-2, A-SSE.3.a-c, F-BI.1.a-c, F-IF.1-2, F-IF.4-6, F-IF.7.a, F-IF.9, F-LE.1.a-b, F-LE.3, F-LE.5, G-GMD.3, G-GPE.5-7, IF-8.b, N-RN.3, N-Q.1-3, N-VM.6-8, S-CO.1, S-ID.7, S-SRT.5</p>