

Crest Memorial School Curriculum and Pacing Guide

Grade: 8

Subject: Algebra

Adoption Date: 9/1/15

Revision Date: 11/7/18

	MP1	MP2	MP3	MP4
Scope and Sequence/Essential Questions	<p>How do I evaluate single, multi-step, and absolute value equations containing one variable?</p> <p>How do I evaluate and graph single, multi-step, compound, and absolute value inequalities containing one variable?</p> <p>How can I analyze what a function is as well as how a function is represented?</p>	<p>How do I graph linear equations and inequalities using slope-intercept, point-slope, and standard forms?</p> <p>How do I evaluate systems of linear equations and inequalities by graphing, substitution, elimination, and multiplication/division?</p>	<p>How do I evaluate systems of linear equations and inequalities by graphing, substitution, elimination, and multiplication/division?</p> <p>How do I simplify exponents using addition, subtraction, multiplication and division?</p> <p>How do I evaluate by adding, subtracting, multiplying, and dividing?</p>	<p>How do I factor polynomials using the GCF, grouping, and special cases?</p> <p>How do I evaluate quadratic equations by graphing, factoring, completing the square, the quadratic formula, and using a graphing calculator?</p> <p>How do I simplify radical expressions?</p>
Instructional Materials	manipulatives, unit folder, graph paper, whiteboards, Flocabulary, FACEing math, teacher created resources, Math with Pizazz, Punchline Algebra	manipulatives, unit folder, graph paper, whiteboards, Flocabulary, FACEing math, teacher created resources, Math with Pizazz, Punchline Algebra, graphing calculator	manipulatives, unit folder, graph paper, whiteboards, Flocabulary, FACEing math, teacher created resources, Math with Pizazz, Punchline Algebra, graphing calculator	manipulatives, unit folder, graph paper, whiteboards, Flocabulary, FACEing math, teacher created resources, Math with Pizazz, Punchline Algebra, graphing calculator
Standards	<p>Activity One: MA.9-12.A-REI.B.3</p> <p>Activity Two: MA.9-12.A-CED.A.2</p>	<p>Activity One: MA.9-12.A-CED.A.2</p> <p>Activity Two: MA.9-12.A-REI.C.5</p>	<p>Activity One: MA.9-12.A-APR.A</p> <p>Activity Two: MA.9-12.A-REI.C.5</p>	<p>Activity One: MA.9-12.A-CED.A.2</p> <p>Activity Two: MA.9-12.A-REI.D.11</p>

	Activity Three: MA.9-12.A-REI.B.3	Activity Three: MA.9-12.A-CED.A.3	Activity Three: NA.9-12.A-SSE.A.2	Activity Three: MA.9-12.A-CED.A.2
Activities	<p>One: Students will graph inequalities on a number using an open or closed circle and appropriate shading. Students will test to make sure answers are possible and/or practical.</p> <p>Two: The class will use a remote controlled car to discuss two variables changing in relation to each other as a way to introduce linear functions. Students will collect data, while generating a data table, graph and equation.</p> <p>Three: Students will work with partners and small groups to solve equations on the classroom white boards. Students will compare answers and use common vocabulary to help each other find the correct solution.</p>	<p>One: Students will revisit the remote control car activity. Students will transition from the change into the independent/dependent variable, to the rate of change for the x and y variables, or the slope. Students will then use slope to graph linear functions.</p> <p>Two: Students will use the rate of weight increase of two different animals to determine when said animals will reach the same age and weight. Students will then find this by graphing two separate linear functions and finding the intersection.</p> <p>Three: Students will use a graphic organizer to track the similarities and differences between slope-intercept, point-slop, and standforms for graphing the same linear function.</p>	<p>One: Students will use Algebra tiles and the area model to show to multiply binomials. Students will use this model to transition to the FOIL method.</p> <p>Two: Students will use the graphing calculator to find the solution to a system of linear equations. Students will need to transform each equation to slope intercept form, and then input using the $y=$ function.</p> <p>Three: Students will represent variables with exponents in expanded form using manipulatives and display how matching objects from the numerator and denominators can be paired together, then eliminated similar to "Go Fish".</p>	<p>One: Students will observe a ball dropped of a roof using a slow motion video camera. Students will track how the time is moving at a constant function, but distance traveled is increasing exponentially as a quadratic function.</p> <p>Two: Students will use the graphing calculator to find the x and y intercepts for a quadratic function, as well as the minimum or maximum.</p> <p>Three: Students will use a water balloon launcher to introduce the "b" term, or initial/upward velocity into a quadratic functions that was not used for falling objects.</p>
Modifications	<p>Activity One:</p> <p>English language learners: Use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy</p>	<p>Activity One:</p> <p>English language learners: Use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy (native language or English</p>	<p>Activity One:</p> <p>English language learners: Use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy</p>	<p>Activity One:</p> <p>English language learners: Use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy</p>

	<p>(native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math manipulatives. Adjust time for completion. Modify assignment and/or homework length. Read word problems aloud.</p> <p>Gifted and Talented Students: Allow students to mentor other students. Ask high level thinking questions. Provide extended assignments.</p> <p>Students with 504 plans: Limit visual material presented. Allow close proximity to teacher. Reduce assignments (odd/even questions). Allow extra time for tests and assignments.</p> <p>Activity Two:</p> <p>English language learners: Find/downloadgrocery store circular in native language, use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy (native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math</p>	<p>language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math manipulatives. Adjust time for completion. Modify assignment and/or homework length. Read word problems aloud.</p> <p>Gifted and Talented Students: Allow students to mentor other students. Ask high level thinking questions. Provide extended assignments.</p> <p>Students with 504 plans: Limit visual material presented. Allow close proximity to teacher. Reduce assignments (odd/even questions). Allow extra time for tests and assignments.</p> <p>Activity Two:</p> <p>English language learners: Find/downloadgrocery store circular in native language, use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy (native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math manipulatives. Adjust time for</p>	<p>(native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math manipulatives. Adjust time for completion. Modify assignment and/or homework length. Read word problems aloud.</p> <p>Gifted and Talented Students: Allow students to mentor other students. Ask high level thinking questions. Provide extended assignments.</p> <p>Students with 504 plans: Limit visual material presented. Allow close proximity to teacher. Reduce assignments (odd/even questions). Allow extra time for tests and assignments.</p> <p>Activity Two:</p> <p>English language learners: Find/downloadgrocery store circular in native language, use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy (native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math</p>	<p>(native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math manipulatives. Adjust time for completion. Modify assignment and/or homework length. Read word problems aloud.</p> <p>Gifted and Talented Students: Allow students to mentor other students. Ask high level thinking questions. Provide extended assignments.</p> <p>Students with 504 plans: Limit visual material presented. Allow close proximity to teacher. Reduce assignments (odd/even questions). Allow extra time for tests and assignments.</p> <p>Activity Two:</p> <p>English language learners: Find/downloadgrocery store circular in native language, use of translation dictionaries to translate in class assignments, homework, and study guides. Assign a buddy (native language or English language) Use visual aides when possible.</p> <p>At Risk of School Failure: Preview upcoming vocabulary and skills. Use of math</p>
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<p>Interdisciplinary Connections</p>	<p>Activity One: Students will practice art and drawing skills by completing multiple FACEing math activities. Math questions are answered that require a related drawing to be made on a given base template. Correct answers will generate an expected picture that can be compared with peers.</p> <p>Activity Two: Students will work with reading comprehension to dissect and solve multi-step word problems. Students will define given words, and look for key phrases that dictate which mathematical function should be completed.</p> <p>Activity Three: Students will work with technology to use digital tools in the math classroom. Students will combine work with the</p>	<p>Activity One: Students will practice art and drawing skills by completing multiple FACEing math activities. Math questions are answered that require a related drawing to be made on a given base template. Correct answers will generate an expected picture that can be compared with peers.</p> <p>Activity Two: Students will work with reading comprehension to dissect and solve multi-step word problems. Students will define given words, and look for key phrases that dictate which mathematical function should be completed.</p> <p>Activity Three: Students will work with technology to use digital tools in the math classroom. Students will combine work with the</p>	<p>Activity One: Students will practice art and drawing skills by completing multiple FACEing math activities. Math questions are answered that require a related drawing to be made on a given base template. Correct answers will generate an expected picture that can be compared with peers.</p> <p>Activity Two: Students will work with reading comprehension to dissect and solve multi-step word problems. Students will define given words, and look for key phrases that dictate which mathematical function should be completed.</p> <p>Activity Three: Students will work with technology to use digital tools in the math classroom. Students will combine work with the</p>	<p>Activity One: Students will practice art and drawing skills by completing multiple FACEing math activities. Math questions are answered that require a related drawing to be made on a given base template. Correct answers will generate an expected picture that can be compared with peers.</p> <p>Activity Two: Students will work with reading comprehension to dissect and solve multi-step word problems. Students will define given words, and look for key phrases that dictate which mathematical function should be completed.</p> <p>Activity Three: Students will work with technology to use digital tools in the math classroom. Students will combine work with the</p>

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Assessments	<p>Formative assessments: informal observation, student discussion, work on whiteboards,</p> <p>Summative assessments: weekly mini-quizzes, unit tests</p>	<p>Formative assessments: informal observation, student discussion, work on whiteboards,</p> <p>Summative assessments: weekly mini-quizzes, unit tests</p>	<p>Formative assessments: informal observation, student discussion, work on whiteboards,</p> <p>Summative assessments: weekly mini-quizzes, unit tests</p>	<p>Formative assessments: informal observation, student discussion, work on whiteboards,</p> <p>Summative assessments: weekly mini-quizzes, unit tests</p>
21st Century Themes and Skills	<p>Activity One: CRP6</p> <p>Activity Two: CRP8</p> <p>Activity Three: 9.1.4.A.3</p>	<p>Activity One: CRP6</p> <p>Activity Two: CRP8</p> <p>Activity Three: 9.1.4.A.3</p>	<p>Activity One: CRP6</p> <p>Activity Two: CRP8</p> <p>Activity Three: 9.1.4.A.3</p>	<p>Activity One: CRP6</p> <p>Activity Two: CRP8</p> <p>Activity Three: 9.1.4.A.3</p>