



**Brookhaven School District**

**Pacing Guide  
2019-20**

**Eighth Grade Math**

2 days Aug. 6-7 Orientation of Students (Classroom Rules/Handbook/Expectations, etc.)

1 <sup>st</sup> Nine Weeks			
Timeline (Specific Dates)	Concepts and Skills for the Time Period	Standards	Resources (textbooks, links, etc.)
3 days Aug. 8-9, 12	Introduction to 8 <sup>th</sup> Grade Math/Prerequisite Skills		Videos <a href="http://www.khanacademy.org">http://www.khanacademy.org</a> <a href="http://www.teacherchannel.com">www.teacherchannel.com</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a> <a href="http://www.teachertube.com/">http://www.teachertube.com/</a> <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a>  Lesson/Activities/Resources <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a> <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a> <a href="http://www.sharemylesson.com">www.sharemylesson.com</a> <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a> <a href="http://watchknowlearn.org">http://watchknowlearn.org</a> <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a> <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a> <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a> <a href="https://www.desmos.com/">https://www.desmos.com/</a> <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a> <a href="https://getkahoot.com/">https://getkahoot.com/</a> <a href="http://map.mathshell.org/">http://map.mathshell.org/</a> <a href="http://achievethecore.org/">http://achievethecore.org/</a> <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a> <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a>
1/2 day Aug. 8	Integer Rules		Big Ideas (Blue) Chapter 7 Larson Pre-Algebra Chapter 1 <a href="http://depts.gpc.edu/~dunmol/PDFHandouts/integer_rules.pdf">http://depts.gpc.edu/~dunmol/PDFHandouts/integer_rules.pdf</a>
1/2 day Aug. 8	Order of Operations/Evaluating Expressions		Big Ideas (Blue) Chapter 10 Larson Pre-Algebra Chapter 1 <a href="http://illuminations.nctm.org/Lesson.aspx?id=2583">http://illuminations.nctm.org/Lesson.aspx?id=2583</a>
1 day Aug. 9	Graphing Ordered Pairs on a Coordinate Plane		Big Ideas (Blue) Chapter Larson Pre-Algebra Chapter 1
1 day Aug. 12	Equivalent Fractions Percents/Decimals		Big Ideas (Blue) Chapter 7 Larson Pre-Algebra Chapter 4, 5, 7
4 days Aug. 13-16	Unit 1: Rational & Irrational Numbers		Videos <a href="http://www.khanacademy.org">http://www.khanacademy.org</a> <a href="http://www.teacherchannel.com">www.teacherchannel.com</a> <a href="http://www.youtube.com">www.youtube.com</a>

			<a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a> <a href="http://www.teachertube.com/">http://www.teachertube.com/</a> <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a>  Lesson/Activities/Resources <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a> <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a> <a href="http://www.sharemylesson.com">www.sharemylesson.com</a> <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a> <a href="http://watchknowlearn.org">http://watchknowlearn.org</a> <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a> <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a> <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a> <a href="https://www.desmos.com/">https://www.desmos.com/</a> <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a> <a href="https://getkahoot.com/">https://getkahoot.com/</a> <a href="http://map.mathshell.org/">http://map.mathshell.org/</a> <a href="http://achievethecore.org/">http://achievethecore.org/</a> <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a> <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a>
2 days Aug. 13-14	<b>Classification of Real Numbers</b> -Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	<b>8.NS.1</b>	Big Ideas (Blue) Chapter 7 Larson Pre-Algebra Chapters 5, 9
2 days Aug. 15-16	<b>Approximation of Irrational Numbers</b> -Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $rr^2$ ). <i>For example, by truncating the decimal expansion of <math>\sqrt{2}</math>, show that <math>\sqrt{2}</math> is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.</i>	<b>8.NS.2</b>	Big Ideas (Blue) Chapters 7 Larson Pre-Algebra Chapters 9
<b>5 days</b>	<b>Unit 2: Exponents &amp; Scientific Notation      Aug. 19-23</b>		
2 days Aug. 19-20	<b>Exponent Rules</b> -Know and apply the properties of integer exponents to generate equivalent numerical expressions. <i>For example, <math>3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27</math>.</i>	<b>8.EE.1</b>	Big Ideas (Blue) Chapters 10 Larson Pre-Algebra Chapter 4
1 day Aug. 21	<b>Scientific Notation</b> -Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. <i>For example, estimate the population of the United States as <math>3 \times 10^8</math> and the population of the world as <math>7 \times 10^9</math>, and determine that the world population is more than 20 times larger.</i>	<b>8.EE.3</b>	Big Ideas (Blue) Chapters 10 Larson Pre-Algebra Chapter 4
2 days Aug. 22-23	<b>Operations in Scientific Notation</b> -Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	<b>8.EE.4</b>	Big Ideas (Blue) Chapters 10 Larson Pre-Algebra Chapter 4

<b>8 days</b>	<b>Unit 3: Solving Linear Equations &amp; Inequalities Aug. 26-30, Sept. 3-5</b>		
1 day Aug. 26	Properties of Equality and Inequality Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers). b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapter 2
1 day Aug. 27	Recognize & Give Examples of Linear Equations in One Variable w/One, No or Many Solutions a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$ , $a = a$ , or $a = b$ results (where $a$ and $b$ are different numbers).	<b>8.EE.7a</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapters 2, 3
2 days Aug. 28-29	Solving Multi-Step Linear Equations by Combining Like Terms b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7b</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapter 2, 3
2 days Aug.30 Sept.3	Solving Multi-Step Linear Equations using the Distributive Property b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7b</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapter 2, 3
1 day  Sept. 4	Solving Multi-Step Linear Equations with Variables on Both Sides and Word Problems b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7b</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapter 2, 3, 5
½ day Sept.5	Solving Multi-Step Linear Inequalities by Combining Like Terms b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7b</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapters 2, 3, 5
½ day Sept. 5	Solving Multi-Step Linear Inequalities using the Distributive Property b. Solve linear equations and inequalities with rational number coefficients, including those whose solutions require expanding expressions using the distributive property and collecting like terms.	<b>8.EE.7b</b>	Big Ideas (Blue) Chapter 1 Larson Pre-Algebra Chapters 2, 3, 5
<b>1 day Sept.6</b>	<b>4.5 Week Test</b>		
<b>17 days, Sept. 9-13, 16-20, 23-27, 30 Oct. 1</b>	<b>Unit 4: Functions</b>		Videos <a href="http://www.khanacademy.org">http://www.khanacademy.org</a> <a href="http://www.teacherchannel.com">www.teacherchannel.com</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a> <a href="http://www.teachertube.com/">http://www.teachertube.com/</a> <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a>  Lesson/Activities/Resources

			<a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a> <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a> <a href="http://www.sharemylesson.com">www.sharemylesson.com</a> <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a> <a href="http://watchknowlearn.org">http://watchknowlearn.org</a> <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a> <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a> <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a> <a href="https://www.desmos.com/">https://www.desmos.com/</a> <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a> <a href="https://getkahoot.com/">https://getkahoot.com/</a> <a href="http://map.mathshell.org/">http://map.mathshell.org/</a> <a href="http://achievethecore.org/">http://achievethecore.org/</a> <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a> <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a>
3 days Sept. 9-11	<p>Identify domain &amp; range of a relation</p> <p>Represent relations in multiple ways (ordered pairs, mapping diagrams, tables, &amp; graphs)</p> <p>- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup></p>	<b>8.F.1</b>	Big Ideas (Blue) Chapters 6 Larson Pre-Algebra Chapters 8
2 days Sept. 12-13	<p>Determine if a graph represents a function using the vertical line test</p> <p>Determine if a set of ordered pairs (or list of table values) represents a function using lists and mapping diagrams</p> <p>- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup></p>	<b>8.F.1</b>	Big Ideas (Blue) Chapters 6 Larson Pre-Algebra Chapters 8
1 day Sept. 16	<p>Calculate the y-value of a function when given the x-value</p> <p>- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup></p>	<b>8.F.1</b>	Big Ideas (Blue) Chapters 6 Larson Pre-Algebra Chapters 8
2 days Sept. 17-18	<p>Graph functions on a Coordinate Plane</p> <p>- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup></p>	<b>8.F.1</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8
1 day Sept. 19	<p>Read inputs and outputs from a graph of a function on a coordinate plane</p> <p>- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. <sup>1</sup></p>	<b>8.F.1</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8
2 days Sept. 20, 23	<p>Calculate rate of change from a table &amp; from a graph</p> <p>-Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i></p>	<b>8.F.2</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8
1 day Sept. 24	<p>Comparing the properties of functions represented in the same way</p> <p>-Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i></p>	<b>8.F.2</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8
2 days Sept. 25-26	<p>Comparing the properties of functions represented in different ways</p> <p>-Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). <i>For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.</i></p>	<b>8.F.2</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8
3 days Sept. 27, 30, Oct. 1	<p>Understand the difference between linear and nonlinear functions</p> <p>Understand that <math>y = mx + b</math> represents a linear functions</p> <p>Distinguish equations representing linear versus nonlinear functions</p> <p>- Interpret the equation <math>y = mx + b</math> as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function <math>A = s^2</math> giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i></p> <p>- Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value</p>	<b>8.F.3</b>  <b>8.F.4</b>	Big Ideas (Blue) Chapters 4, 6 Larson Pre-Algebra Chapters 8

	<p>of the function from a description of a relationship or from two <math>(x, y)</math> values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p> <p>- Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p> <p>- Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. <i>For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</i></p> <p>- Use similar triangles to explain why the slope <math>m</math> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation <math>y = mx</math> for a line through the origin and the equation <math>y = mx + b</math> for a line intercepting the vertical axis at <math>b</math>.</p>	<p><b>8.F.5</b></p> <p><b>8.EE.5</b></p> <p><b>8.EE.6</b></p>	
5 days	<b>NINE WEEKS EXAM Oct. 2-4, 7-8</b>		
<b>2<sup>nd</sup> Nine Weeks</b>			
Timeline (Specific Dates)	Concepts and Skills for the Time Period	Standards	Resources (textbooks, links, etc.)
5 days Oct. 9-11, 14, 16	Unit 4: Functions con't		<p>Videos  <a href="http://www.khanacademy.org">http://www.khanacademy.org</a>  <a href="http://www.teacherchannel.com">www.teacherchannel.com</a>  <a href="http://www.youtube.com">www.youtube.com</a>  <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a>  <a href="http://www.teachertube.com/">http://www.teachertube.com/</a>  <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a></p> <p>Lesson/Activities/Resources  <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a>  <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a>  <a href="http://www.sharemylesson.com">www.sharemylesson.com</a>  <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a>  <a href="http://watchknowlearn.org">http://watchknowlearn.org</a>  <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a>  <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a>  <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a>  <a href="https://www.desmos.com/">https://www.desmos.com/</a>  <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a>  <a href="https://getkahoot.com/">https://getkahoot.com/</a>  <a href="http://map.mathshell.org/">http://map.mathshell.org/</a>  <a href="http://achievethecore.org/">http://achievethecore.org/</a>  <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a>  <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a></p>
5 days Oct. 9-11, 14, 16  Oct.15 Report Card Pick- Up	<p>Understand the relationship between slope and unit rate</p> <p>Graph proportional relationships</p> <p>Recognize the relationship between similar triangles and slope</p> <p>Analyzing graphs for Functional Relationships</p> <p>Calculate slope of a line</p> <p>Calculate the slope between 2 points</p> <p>- Interpret the equation <math>y = mx + b</math> as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. <i>For example, the function <math>A = s^2</math> giving the area of a square as a function of its side length is not linear</i></p>	<b>8.F.3</b>	<p>Big Ideas (Blue) Chapters 4, 6</p> <p>Larson Pre-Algebra Chapters 6, 8</p>

<p>Oct. 9-11, 14, 16 (continued)</p>	<p><i>because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.</i></p> <p>- Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two <math>(x, y)</math> values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p> <p>- Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p> <p>- Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. <i>For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</i></p> <p>- Use similar triangles to explain why the slope <math>m</math> is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation <math>y = mx</math> for a line through the origin and the equation <math>y = mx + b</math> for a line intercepting the vertical axis at <math>b</math>.</p>	<p><b>8.F.4</b></p> <p><b>8.F.5</b></p> <p><b>8.EE.5</b></p> <p><b>8.EE.6</b></p>	
--	--	---	--

<p>17 days Oct. 17-18, 21-25, 30-31, Nov. 1, 4-8, 11-12</p>	<p><b>Unit 5: Systems of Equations</b></p>		<p>Videos  <a href="http://www.khanacademy.org">http://www.khanacademy.org</a>  <a href="http://www.teacherchannel.com">www.teacherchannel.com</a>  <a href="http://www.youtube.com">www.youtube.com</a>  <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a>  <a href="http://www.teachertube.com/">http://www.teachertube.com/</a>  <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a></p> <p>Lesson/Activities/Resources  <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a>  <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a>  <a href="http://www.sharemylesson.com">www.sharemylesson.com</a>  <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a>  <a href="http://watchknowlearn.org">http://watchknowlearn.org</a>  <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a>  <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a>  <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a>  <a href="https://www.desmos.com/">https://www.desmos.com/</a>  <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a>  <a href="https://getkahoot.com/">https://getkahoot.com/</a>  <a href="http://map.mathshell.org/">http://map.mathshell.org/</a>  <a href="http://achievethecore.org/">http://achievethecore.org/</a>  <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a>  <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a></p>
<p>5 days Oct. 17-18, 21-23</p> <p>Oct. 18 Homecoming</p>	<p>Recognize that the solution to a system of equations is represented by the point of intersection of 2 lines (one solution)  Understand that if no point of intersection exists, the lines are parallel (no solution)  Understand that the same graph exists for two equations, infinitely many solutions exists</p> <p>Analyze and solve pairs of simultaneous linear equations.</p> <ol style="list-style-type: none"> <li>Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</li> <li>Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, <math>3x + 2y = 5</math> and <math>3x + 2y = 6</math> have no solution because <math>3x + 2y</math> cannot simultaneously be 5 and 6.</i></li> <li>Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i></li> </ol>	<p><b>8.EE.8 a-c</b></p>	<p>Big Ideas (Blue) Chapters 5  Larson Pre-Algebra Chapters 8</p>
<p>12 days Oct. 24-25, 30-31 Nov. 1, 4-8, 11-12</p>	<p>Solve systems of equations by:  Graphing, Inspection, Elimination, Substitution</p> <p>Analyze and solve pairs of simultaneous linear equations.</p> <ol style="list-style-type: none"> <li>Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.</li> <li>Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, <math>3x + 2y = 5</math> and <math>3x + 2y = 6</math> have no solution because <math>3x + 2y</math> cannot simultaneously be 5 and 6.</i></li> <li>Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i></li> </ol>	<p><b>8.EE.8 a-c</b></p>	<p>Big Ideas (Blue) Chapters 5  Larson Pre-Algebra Chapters 8</p>

<p>1 day Nov.13</p>	<p><b>4.5 Week Test</b></p>		
<p>17 days Nov. 14-15, 18-22, Dec. 2-6, 9-13</p>	<p><b>Unit 6: Pythagorean Theorem &amp; Volume</b></p>		<p>Videos  <a href="http://www.khanacademy.org">http://www.khanacademy.org</a>  <a href="http://www.teacherchannel.com">www.teacherchannel.com</a>  <a href="http://www.youtube.com">www.youtube.com</a>  <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a>  <a href="http://www.teachertube.com/">http://www.teachertube.com/</a>  <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a></p> <p>Lesson/Activities/Resources  <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a>  <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a>  <a href="http://www.sharemylesson.com">www.sharemylesson.com</a>  <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a>  <a href="http://www.watchknowlearn.org">http://www.watchknowlearn.org</a>  <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a>  <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a>  <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a>  <a href="https://www.desmos.com/">https://www.desmos.com/</a>  <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a>  <a href="https://getkahoot.com/">https://getkahoot.com/</a>  <a href="http://map.mathshell.org/">http://map.mathshell.org/</a>  <a href="http://achievethecore.org/">http://achievethecore.org/</a>  <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a>  <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a></p>
<p>1 day Nov. 14</p>	<p>Recognize &amp; evaluate perfect square &amp; cube roots  Recognize that non perfect squares and non perfect cubes are irrational  Recognize the inverse operation of squared is square rooting and solve mathematical problems</p> <p>Use square root and cube root symbols to represent solutions to equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that <math>\sqrt{2}</math> is irrational.</p>	<p><b>8.EE.2</b></p>	<p>Big Ideas (Blue) Chapter 7  Larson Pre-Algebra Chapter 9</p>
<p>2 days Nov. 15, 18</p>	<p>Solve equations of the form <math>x^2 = p</math>, where p is a perfect square  Recognize the inverse operation of cubed is cube rooting  Solve equations of the form <math>x^3 = p</math>, where p is a perfect cube  Solve equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, representing solutions using <math>\sqrt{\quad}</math> symbols.</p> <p>Use square root and cube root symbols to represent solutions to equations of the form <math>x^2 = p</math> and <math>x^3 = p</math>, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that <math>\sqrt{2}</math> is irrational.</p>	<p><b>8.EE.2</b></p>	<p>Big Ideas (Blue) Chapter 7  Larson Pre-Algebra Chapter 9</p>



<p>10 days Nov. 19-22, Dec. 2-6, 9</p>	<p>Understand the Pythagorean Theorem  Identify the parts of a right triangle (legs and hypotenuse)  Use the Pythagorean Theorem to find the missing side of a right triangle  Use the Pythagorean Theorem to determine if three length measurements form a right triangle  Determine if a triangle is a right triangle by using the Pythagorean Theorem  Verify the Pythagorean Theorem by examining the area of squares coming off of each side of the right triangle  Identify Pythagorean triples  Explain a proof of the Pythagorean Theorem  Solve word problems using the Pythagorean Theorem  Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world problems &amp; mathematical problems in 2 dimension</p> <ul style="list-style-type: none"> <li>- Explain a proof of the Pythagorean Theorem and its converse.</li> <li>- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.</li> </ul>	<p><b>8.G.6</b> <b>8.G.7</b></p>	<p>Big Ideas (Blue) Chapters 7 Larson Pre-Algebra Chapters 9</p>
<p>2 days Dec. 10-11</p>	<p>Use the Pythagorean Theorem (in addition to the distance formula) to find the distance between two points in a coordinate plane  Construct a right triangle on a coordinate plane to determine the distance between two points</p> <p>Determine the length of the diagonal or hypotenuse of a right triangle on a coordinate plane</p> <p>Use the coordinate plane to create a right triangle relationship whereby the distance between two points can be determined by solving for the hypotenuse of the Pythagorean Theorem.</p> <ul style="list-style-type: none"> <li>- Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.</li> </ul>	<p><b>8.G.8</b></p>	<p>Big Ideas (Blue) Chapters 7 Larson Pre-Algebra Chapters 9</p>
<p>2 days Dec.12-13</p>	<p>Identify the shapes of cones, cylinders, and spheres  Use appropriate formulas for volume of cones, cylinders, and spheres in mathematical and real-world situations</p> <ul style="list-style-type: none"> <li>- Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.</li> </ul>	<p><b>8.G.9</b></p>	<p>Big Ideas (Blue) Chapters 1, 8 Larson Pre-Algebra Chapters 10</p>
<p><b>1 day</b> <b>Dec. 16-20</b></p>	<p>Any review or reinforcement needed and <b>NINE WEEKS EXAM</b></p>		

3 <sup>rd</sup> Nine Weeks			
Timeline (Specific Dates)	Concepts and Skills for the Time Period	Standards	Resources (textbooks, links, etc.)
<b>37 days</b> Jan. 7-10, 13-17, 21-24, 27-31 Feb. 3-5, 7, 10-14, 17-21, 24-28	<b>Unit 7: Transformations</b>		Videos <a href="http://www.khanacademy.org">http://www.khanacademy.org</a> <a href="http://www.teacherchannel.com">www.teacherchannel.com</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a> <a href="http://www.teachertube.com/">http://www.teachertube.com/</a> <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a>  Lesson/Activities/Resources <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a> <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a> <a href="http://www.sharemylesson.com">www.sharemylesson.com</a> <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a> <a href="http://watchknowlearn.org">http://watchknowlearn.org</a> <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a> <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a> <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a> <a href="https://www.desmos.com/">https://www.desmos.com/</a> <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a> <a href="https://getkahoot.com/">https://getkahoot.com/</a> <a href="http://map.mathshell.org/">http://map.mathshell.org/</a> <a href="http://achievethecore.org/">http://achievethecore.org/</a> <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a> <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a>
6 days  Jan. 7-10, 13-14	Define & identify the three rigid transformations: translations, rotations, & reflections Construct an image from pre-image, using geometric tools.  Construct a rotation Construction a reflection Construction a translation Understand image and pre-image are congruent in translations, reflections, and rotations Explore and justify figures created from transformations using compasses, protractors, and rulers or technology  Verify experimentally the properties of rotations, reflections, and translations <ol style="list-style-type: none"> <li>a. Lines are taken to lines, and line segments to line segments of the same length.</li> <li>b. Angles are taken to angles of the same measure.</li> <li>c. Parallel lines are taken to parallel lines.</li> </ol>	<b>8.G.1a-c</b>	Big Ideas (Blue) Chapters 2 Larson Pre-Algebra Chapters 12
5 days  Jan.15-17, 21-22	Defend whether or not two figures are congruent given the graph of a figure and its transformation using translations, reflections, & rotations Recognize the angles formed by two parallel lines and a transversal Justify why angles (formed by parallel lines and a transversal) are congruent using angle relationships Determine if two figures are congruent by identifying the transformation used to produce the figures Write congruent statements Recognize the congruent symbol Define congruent Write statements that justify the process of transformation as well as the conclusion Describe the sequence of transformations from one figure to another  Verify experimentally the properties of rotations, reflections, and translations <ol style="list-style-type: none"> <li>a. Lines are taken to lines, and line segments to line segments of the same length.</li> </ol>	<b>8.G.1 a-c</b>	Big Ideas (Blue) Chapters 2 Larson Pre-Algebra Chapters 12

	<ul style="list-style-type: none"> <li>b. Angles are taken to angles of the same measure.</li> <li>c. Parallel lines are taken to parallel lines.</li> </ul>		
<p>5 days Jan. 23-24, 27-29</p>	<p>Identify the new coordinates of a translation, rotation, reflection, &amp; dilation Understand image and pre-image are similar in dilations Given two similar figures describe the sequence of rotations, reflections, translations, and dilations Create a figure congruent to a given figure by applying knowledge of translation, rotation, &amp; reflection Create a figure congruent to a given figure by applying knowledge of rotation (90, 180, 270 degrees) both clockwise and counterclockwise</p> <p>- Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p>	<b>8.G.3</b>	<p>Big Ideas (Blue) Chapters 2 Larson Pre-Algebra Chapters 12</p>
<p>5 days Jan. 30-31, Feb. 3-5</p>	<p>Find the measures of missing angles Make conjectures about relationships between angles Determine the relationship between two angles when given parallel lines and a transversal Construct parallel lines and transversal to examine the relationships between created angles Apply knowledge of vertical, adjacent, and supplementary angles to identify other pairs of congruent angles Find the missing angle of a triangle Find the exterior angle of a triangle Find the missing angle measure when given two similar triangles Explore and justify relationships that exist between interior angle sums and exterior angles of triangles</p> <p>-Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i></p>	<b>8.G.5</b>	<p>Big Ideas (Blue) Chapters 2, 3 Larson Pre-Algebra Chapters 10, 12</p>
<p><b>1 day Feb.6</b></p>	<p><b>4.5 Week Test</b></p>		
<p>16 days Feb. 7, 10-14, 17-21, 24-28</p>	<p>Performance Tasks</p> <p>Verify experimentally the properties of rotations, reflections, and translations</p> <ul style="list-style-type: none"> <li>a. Lines are taken to lines, and line segments to line segments of the same length.</li> <li>b. Angles are taken to angles of the same measure.</li> <li>c. Parallel lines are taken to parallel lines.</li> </ul> <p>- Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.</p> <p>- Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p> <p>- Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p>	<p><b>8.G.1a-c</b></p> <p><b>8.G.2</b></p> <p><b>8.G.3</b></p> <p><b>8.G.4</b></p>	<p>Big Ideas (Blue) Chapters 2 Larson Pre-Algebra Chapters 12</p>

Mar. 2-6	Any review and reinforcement needed and <b>NINE WEEKS EXAM</b>		
<b>4<sup>th</sup> Nine Weeks</b>			
Timeline (Specific Dates)	Concepts and Skills for the Time Period	Standards	Resources (textbooks, links, etc.)
18 days March 16-20, 23-25, 27, 30-31 April 1-3, 6-9	<b>Unit 8: Patterns of Association in Bivariate Data</b>		Videos <a href="http://www.khanacademy.org">http://www.khanacademy.org</a> <a href="http://www.teacherchannel.com">www.teacherchannel.com</a> <a href="http://www.youtube.com">www.youtube.com</a> <a href="https://learnzillion.com/p/">https://learnzillion.com/p/</a> <a href="http://www.teachertube.com/">http://www.teachertube.com/</a> <a href="http://www.watchknowlearn.org/">http://www.watchknowlearn.org/</a>  Lesson/Activities/Resources <a href="http://www.fcrr.org/Curriculum/studentCenterActivities.shtm">http://www.fcrr.org/Curriculum/studentCenterActivities.shtm</a> <a href="http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com">http://blogs.egusd.net/ccss/2012/01/12/ccss-aligned-rubrics-k-12.com</a> <a href="http://www.sharemylesson.com">www.sharemylesson.com</a> <a href="http://www.illustrativemathematics.com">www.illustrativemathematics.com</a> <a href="http://watchknowlearn.org">http://watchknowlearn.org</a> <a href="http://www.apples4theteacher.com">http://www.apples4theteacher.com</a> <a href="http://www.mathworksheets4kids.com">http://www.mathworksheets4kids.com</a> <a href="https://www.kutasoftware.com/">https://www.kutasoftware.com/</a> <a href="https://www.desmos.com/">https://www.desmos.com/</a> <a href="https://manager.classworks.com/brookhavenschools.org/">https://manager.classworks.com/brookhavenschools.org/</a> <a href="https://getkahoot.com/">https://getkahoot.com/</a> <a href="http://map.mathshell.org/">http://map.mathshell.org/</a> <a href="http://achievethecore.org/">http://achievethecore.org/</a> <a href="https://www.engageny.org/resource/grade-8-mathematics">https://www.engageny.org/resource/grade-8-mathematics</a> <a href="https://www.mathplanet.com/">https://www.mathplanet.com/</a>
7 days Mar. 16-20; 23-24	Graph a set of points Interpret scatter plots as linear or nonlinear Interpret the graph as strong correlation (clustering) or weak (outliers) Construct a scatter plot on a plane using two variables Investigate the relationship between two quantities on a scatter plot Analyze the trend of a scatter plot & determine whether there is a positive, negative, or no relationship Analyze the trend of a scatter plot and determine if the relationship that exists is linear or nonlinear Predict future outcomes using a scatter plot Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line Graph the equation to demonstrate how the data is related  -Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.  -Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	<b>8.SP.1</b>  <b>8.SP.2</b>	Big Ideas (Blue) Chapter 9 Larson Pre-Algebra Chapters 8
5 days Mar. 25, 27, 30-31, April 1	Use the line of best fit to determine an equation in two variables for the data ( $y=mx + b$ ) Use slope intercept form to determine the slope & y-intercept of the line of best fit  -Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	<b>8.SP.2</b>	Big Ideas (Blue) Chapter 9 Larson Pre-Algebra Chapters 8

	-Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i>	<b>8.SP.3</b>	
6 days April 2-3, 6-9	<p>Create a frequency table with collected data</p> <p>Interpret a frequency table</p> <p>Calculate relative frequencies</p> <p>Determine if there is a correlation between the information</p> <p>Read a graph to determine a correlation</p> <p>Construct a graph based on information given</p> <p>Make predictions and analyze the data between the variables in the frequency table</p> <p>Justify and defend the accuracy of my predictions</p> <p>-Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i></p>	<b>8.SP.4</b>	Big Ideas (Blue) Chapter 9 Larson Pre-Algebra Chapter 7, 11
<b>Apr. 14- May 22</b>	<b>Review and Reinforcement of skills</b> <b>NWEA MAP</b> <b>8th Grade Math MAAP</b>		
<b>May 18-22</b>	<b>NINE WEEKS EXAM and Review</b>		