|  | End Product of Learning, "What", You Teach |  |  | Means to the INSTRUCTION | $\frac{\text { ASSESSMENT }}{\text { Validation to Revise }}$ Curriculum \& Instruction |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TIME FRAME [By Date/Week/ Month] | STANDARD OR BENCHMARK | CONTENT: <br> What we want students to "KNOW". | SKILL: <br> What we want students to "DO". | Varied Teaching/Learning Strategies Resources/Comments | Varied Classroom Assessment Strategies |
| September | Chapter 1 <br> Connections to Algebra <br> (Pp3-39) <br> CCSS <br> 8.EE. 1 <br> 8.EE. 2 <br> 8.F. 4 <br> 6.B. 4 <br> Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <br> 7.A.4.a <br> Apply units and scales to describe and compare numerical data and physical objects. <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 10.A.4.a <br> Represent and organize data by creating lists, charts, tables, frequency distributions, | Students will: <br> - write and evaluate an expression. <br> - check solutions to equations and inequality. <br> - use verbal and algebraic models to represent real life situations. <br> - organize data and represent functions. | Students will: <br> - use variable expressions in real life situations. <br> - use exponents in real life problem solving. <br> - use organized data and graphs in real life situations. | (pp.3-39) <br> Algebra Textbook <br> Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Quizzes <br> Test <br> Homework Checks <br> Participation <br> Projects <br> Informal Observations <br> Discussion |


| graphs, scatterplots and box-plots. <br> 6.A. 4 <br> Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <br> 6.d. 4 <br> Solve Problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <br> 8.A.4.b <br> Represent mathematical patterns and describe their properties using variables and mathematical symbols. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.C.4.a <br> Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <br> 6.B. 4 <br> Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |

    temperature, mass, speed,
    distance, density and
    monetary values.
    8.b.4a
    Represent algebraic
    concepts with physical
    materials, words, diagrams,
    tables, graphs, equations and
    inequalities and use
    appropriate technology.
    10.A.4.a
    Represent and organize data
    by creating lists, charts,
    tables, frequency
    distributions, graphs,
    distributions, graphs,
    scatterplots and box-plots.
8.D. 4
Formulate and solve
linear and quadratic
equations and linear
inequalities algebraically
and investigate nonlinear
and investigate nonlinear
inequalities using graphs
inequalities using graph
tables, calculators and
computers.
8.C.4.b
Apply algebraic properties
and procedures with matrices,
and procedures with $m$
vectors, functions and
vectors, functions and
sequences using data found in
business, industry and
consumer situations.
consumer situations.

| Chapter 2 | Students will: | Students will be able to: | (pp. 63-127) | Quizzes |
| :---: | :---: | :---: | :---: | :---: |
| Properties of Real Numbers | - add, subtract, and multiply real numbers. | - graph and compare real numbers. | Algebra Textbook | Test |
| (pp. 63-127) |  |  | Challenge Activities | Homework Checks |
| CCSS | - determine the likelihood of an event using probabilities and odds. | - use absolute values of numbers in real life application. | Brain Pop | Participation |
| 8.NS. 1 |  |  | Khan Academy | Projects |
| 8.NS. 2 |  | - organize data in a matrix. | Independent Work | Informal Observations |
| 6.A. 4 <br> Identify and apply the associative, commutative, |  | - add and subtract matrices. | Cooperative Group Work <br> Study Guide Investigation | Discussions |

    Properties of Real Numbers
    (pp. 63-127)
    CCSS
    - determine the likelihood
    of an event using
    8.NS. 1
    8.NS. 2
    6.A. 4
    Identify and apply the
    Identify and apply the
    associative, commutative,
bles, graphs, equations and
and procedures with matrices,

## CURRICULUM MAP

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| distributive and identity properties of real numbers, including special numbers such as pi and square roots. <br> 6.b. 4 <br> Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.B.4.b <br> Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <br> 8.C.4.b <br> Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. |  | - use the distributive property. <br> - simplify expressions by combining like terms. - find the probability of an event. <br> - find the odds of an event. |  |  |
| :---: | :---: | :---: | :---: | :---: |

Chapter 3
Solving Linear Equations
(pp.132-197)
CCSS
8.EE.5
8.EE.7

* 8.EE.7a
* 8.EE.7b

6.B.4
Select and use appropriate
arithmetic operations in
practical situations including
calculating wages after taxes,
developing a budget and
balancing a checkbook.
6.A.4
Identify and apply the
associative, commutative,
distributive and identity
properties of real numbers,
including special numbers
such as pi and square roots.
7.A.4.a
Apply units and scales to
describe and compare
numerical data and physical
objects.
7.A.4.b
Apply formulas in a wide
variety of theoretical and
practical real-world
measurement applications
involving perimeter, area,
volume, angle, time,
temperature, mass, speed,
distance, density, and
monetary values.
7.C.4.a
Make indirect measurements,
including heights and
distances, using proportions
(e.g., finding the heights of a
tower by its shadow).
Sol

## Students will:

- learn techniques for solving linear equations
- learn ways to apply ratios, rates, percents, and problem solving strategies.

Students will:

- solve linear equations using addition and subtraction.
- use linear equations to solve real life problems.
- use two or more transformations to solve an equation.
- use multi-step equations to solve real life problems.
- find exact and
approximate solutions that contain decimals.
- solve a formula for literal equations for one of its variables.
- rewrite an equation in functional form.
- use rates and rations and solve.
- use percents and solve real life problems


## Quizzes

Test
Homework Checks

## Participation

Projects
Informal Observation
Discussion
scientific instruments
including timers, calculators
and computers
8.B.4.a

Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations, and inequalities and use appropriate technology.
8.B.4.b

Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical
relationships.
8.C.4.a

Analyze and report the effects of changing coefficients, exponents and other
parameters on functions and their graphs.
8.D. 4

Formulate and solve linear and quadratic equations and linear inequalities
algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers.
10.A.4.a

Represent and organize data by creating lists, charts, tables, frequency
distributions, graphs,
scatterplots and
box-plots.
10.A.4.c

Predict from data
using interpolation,
extrapolation and trend lines, with and without the use of technology.

Chapter 5

|  | Students will: | Students will: |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Writing Linear Equations | - learn three forms of linear | - use slope-intercept form | (Pg. 273-329) | Quizzes |
| (pp. 273-329) | equations. | to write the equation of a line. | Algebra Textbook | Test |
| CCSS | - write a linear equation given a point and a slope, or | - use slope and any point | Challenge Activities | Homework Checks |
| 8.EE. 5 | given two points. | on a line to write an | Brain Pop | Participation |
| 8.EE. 6 | - write an equation of a line | equation of a line. | Khan Academy | Projects |
| 8.F. 2 | perpendicular to one another. | - write and equation of a |  |  |
| 8.F. 3 8.F. 4 | - fit a line to data and use linear | line given two points. | Independent Work | Informal Observation |
| 8.F. 5 | interpolation or linear extrapolation. | - find a linear equation that approximates a set of | Cooperative Group Work | Discussion |
| $\begin{aligned} & \text { 8.SP. } 1 \\ & \text { 8.SP. } 2 \end{aligned}$ |  | data points. | Study Guide Investigation |  |
| 8.SP. 3 |  | - determine whether there is a positive or negative correlation to a set of real life data. |  |  |
| 8.B.4.a |  |  |  |  |
| Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. |  | - use point-slope form to write an equation of a line. <br> - write a linear equation in standard form. |  |  |
| 8.B.4.b |  |  |  |  |
| Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. |  |  |  |  |
| 8.C.4.b |  |  |  |  |
| Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. |  |  |  |  |
| 8.C.4.a <br> Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. |  |  |  |  |
| 10.A.4.a <br> Represent and organize data by creating ists, charts, tables, frequency distributions, |  |  |  |  |


| graphs, scatterplots and box-plots. <br> 10.A.4.c <br> Predict from data using interpolation, extrapolation and trend lines, with and without the use of technology. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Chapter 6 <br> Solving and Graphing Linear Inequalities <br> (pp.334-391) <br> CCSS <br> 8.EE. 1 <br> 8.EE. 2 <br> 8.SP. 4 <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.B.4.b <br> Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <br> 8.C.4.b <br> Apply algebraic properties and procedures with matrices, vectors, functions and sequences data found in business, industry and consumer situations. <br> 8.D. 4 <br> Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and | Students will: <br> - solve and graph inequalities. <br> - solve and graph absolute equations and inequalities. <br> - use the measure of central tendencies and statistical plots. | Students will: <br> - graph linear inequalities with one variable. <br> - solve one-step linear inequalities. <br> - solve multi-step linear inequalities. <br> - write, solve, and graph compound inequalities. <br> - solve absolute values equations and inequalities. <br> - graph a linear inequality with two variables. <br> - solve real life problems using a linear inequality with two variables. <br> - use stem-and-leaf plots. <br> - Use box and whisker plots to organize real life data. | (Pg. 334-391) <br> Algebra Textbook <br> Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Test <br> Quizzes <br> Homework <br> Projects <br> Participation <br> Informal Observation <br> Discussion |




| parameters on functions and their graphs. <br> 10.C.4.a <br> Solve problems of chance using the principles of probability including conditional settings. <br> 10.C.4.c <br> Propose and interpret discrete probability distributions, with and without the use of technology. <br> 10.A.4.a <br> Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatterplots and box-plots. <br> 10.B. 4 <br> Design and execute surveys or experiments, gather data to answer relevant questions, and communicate results and conclusions to an audience using traditional methods and contemporary technology. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Chapter 9 <br> Quadratic Functions and Equations (pp. 504-569) <br> CCSS <br> 6.A. 4 <br> Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <br> 6.C. 4 <br> Determine whether exact values or approximations are appropriate (e.g., bid a job, determine gas mileage for a trip). | Students will: <br> - evaluate and approximate square roots. <br> - simplify radicals. <br> - solve a quadratic equations. <br> - sketch the graph of a quadratic function and a quadratic inequality. | Students will: <br> - evaluate and approximate square roots. <br> - solve quadratic equations by finding square roots. <br> - use properties of radicals to simplify radicals. <br> - sketch the graph of a quadratic function. <br> - solve a quadratic equation graphically and algebraically. <br> - use the discriminant to find the number of solutions of a quadratic | (pp. 504-569) <br> Algebra Textbook <br> Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Test <br> Quizzes <br> Homework Checks <br> Projects <br> Participation <br> Informal Observation <br> Discussion |


| 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.C.4.a <br> Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <br> 8.B.4.b <br> Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. |  | equation. <br> - sketch the graph of a quadratic inequality. |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Chapter 10 <br> Polynomials and Factoring <br> (pp. 576-639) <br> CCSS <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, | Students will: <br> - add, subtract, and multiply polynomials. <br> - factor polynomials. <br> - solve polynomial equations by factoring. | Students will be able to: <br> - add, subtract, and multiply polynomials. <br> - use special product patterns. <br> - solve a polynomial equation in factored form. <br> - factor a quadratic expression of the standard form. <br> - solve a quadratic equation by factoring. <br> - use special product patterns to factor quadratic polynomials. | (pp. 576-639) <br> Algebra Textbook <br> Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Test <br> Quizzes <br> Homework Check <br> Projects <br> Participation <br> Informal Observation <br> Discussion |


| words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.B.4.b <br> Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <br> 8.C.4.a <br> Analyze and report the effects of changing coefficients, exponents and other parameters on functions and their graphs. <br> 10.A.4.a <br> Represent and organize data by creating lists, charts, tables, frequency distributions, graphs, scatter plots and box-plots. |  | - use the distributive property to factor a polynomial. |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Chapter 11 <br> Rational Equations and Functions <br> (pp. 644-705) <br> CCSS <br> 8.NS. 1 <br> 8.NS. 2 <br> 8.EE. 7 <br> * 8.EE. 7 a <br> * 8.EE. 7 b <br> 6.B. 4 <br> Select and use appropriate arithmetic operations in practical situations including calculating wages after taxes, developing a budget and balancing a checkbook. <br> 7.C.4.a <br> Make indirect measurements, including heights and distances, using proportions (e.g., finding the height of a | Students will: <br> - solve rational equations. <br> - add, subtract, multiply, and divide rational expressions. <br> - graph rational functions. | Students will: <br> - solve and write proportions. <br> - solve percent problems in real life situations. <br> - simplify a rational expressions. <br> - multiply and divide rational expressions. <br> - add and subtract rational expressions. <br> - divide a polynomial by a monomial or binomial factor. <br> - solve rational equations. | (pp. 664-705) <br> Algebra Textbook <br> Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Test <br> Quizzes <br> Homework Check <br> Projects <br> Participation <br> Informal Observation <br> Discussion |


|  | tower by its shadow). <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. <br> 8.D. 4 <br> Formulate and solve linear and quadratic equations and linear inequalities algebraically and investigate nonlinear inequalities using graphs, tables, calculators and computers. <br> 8.C.4.b <br> Apply algebraic properties and procedures with matrices, vectors, functions and sequences using data found in business, industry and consumer situations. <br> 10.C.4.a <br> Solve problems of chance using the principles of probability including conditional settings. <br> 10.C.4.c <br> Propose and interpret discrete probability distributions, with and without the use of technology. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Chapter 12 <br> Radical and connections to Geometry | Students will: <br> - solve a radical equation and graph radical functions. | Students will: <br> - evaluate and graph square root functions. | (pp. 710-773) <br> Algebra Textbook | Test <br> Quizzes <br> Homework |

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| (pp.710-773) <br> CCSS <br> 8.G. 6 <br> 8.G. 7 <br> 8.G. 8 <br> 6.D. 4 <br> Solve problems involving recipes or mixtures, financial calculations and geometric similarity using ratios, proportions and percents. <br> 6.A. 4 <br> Identify and apply the associative, commutative, distributive and identity properties of real numbers, including special numbers such as pi and square roots. <br> 7.A.4.a <br> Apply units and scales to describe and compare numerical data and physical objects. <br> 7.A.4.b <br> Apply formulas in a wide variety of theoretical and practical real-world measurement applications involving perimeter, area, volume, angle, time, temperature, mass, speed, distance, density and monetary values. <br> 8.B.4.b <br> Use the basic functions of absolute value, square root, linear, quadratic and step to describe numerical relationships. <br> 8.B.4.a <br> Represent algebraic concepts with physical materials, words, diagrams, tables, graphs, equations and inequalities and use appropriate technology. | - apply the Pythagorean theorem. | - add, subtract, multiply and divide radical expressions. <br> - solve a radical equation. <br> - solve a quadratic equation by completing the square. <br> - use Pythagorean theorem and it's converse. <br> - find distance and midpoint between two points in a coordinate plane. | Challenge Activities <br> Brain Pop <br> Khan Academy <br> Independent Work <br> Cooperative Group Work <br> Study Guide Investigation | Projects <br> Participation <br> Informal Observation <br> Discussion |
| :---: | :---: | :---: | :---: | :---: |



Notes: CCSS not addressed include 8.G.1 a-c, 8.G.2, 8.G.3, 8.G.4, 8.G.5, 8.G.9. However, they are taught in the seventh grade curriculum.

