

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Curriculum Map	
Content Area: Mathematics	
Course Title: Advanced 8th Grade/Algebra I	Grade Level: 8th
Unit 1- Linear Equations and Inequalities	8 weeks
Unit 2- Exponential Functions	3 weeks
Unit 3- Polynomial Equations / Factoring	4 weeks
Unit 4- Quadratic Functions	
Unit 5 - Rational Equations and Functions	4 weeks
Unit 6- Data Analysis	4 weeks
Date Revised:	August 2015
Board Approved on:	August 27, 2015

Unit 1 Overview**Content Area:** Algebra**Unit 1 Title:** Linear Equations**Grade Level:** 8 Advanced**Unit Summary**

Solve, write, and graph the following: linear equations; linear inequalities; systems of linear equations; and linear functions.

Primary interdisciplinary connections: Science/Technology

MS-ESS1-2. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.

21st century themes: This unit will infuse the 21st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP11. Use technology to enhance productively.

Learning Targets

Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.

Unit Essential Questions

- How can you recognize a linear equation? How can you draw its graph?
- How can the slope of a line be used to describe the line?
- How can you use addition, subtraction, multiplication, or division to solve an inequality?
- How can you use a coordinate plane to solve problems involving linear inequalities?
- How can you solve a system of linear equations?
- How can you use substitution to solve a system of linear equations?
- How can you use elimination to solve a system of linear equations?
- Can a system of linear equations have no solution? Can a system of linear equations have many solutions?
- How can you sketch the graph of a system of linear inequalities?
- How can you decide whether the domain of a function is discrete or continuous?
- How can you use a linear function to describe a linear pattern?
- How can you use a function notation to represent a function?
- How can you recognize when a pattern in real life is linear and nonlinear?

Student Learning Objectives

- To solve equations with variables on both sides.
- To solve absolute value equations.
- To graph linear equations.
- To find slope and determine if lines are parallel or perpendicular using that slope.
- To write and graph the equation of a line written in slope-intercept and standard forms.
- To write the equation of a line given a slope and a point or two points.
- To write equations of parallel and perpendicular lines.
- To write, graph, and solve inequalities.
- To graph a linear inequality in two variables.
- To solve a system of linear equations by graphing/substitution/elimination methods.
- To solve a system of equations with no solution or infinitely many solutions.
- To solve systems of linear inequalities.
- To identify the domain(discrete or continuous) and range of a function.
- To write a linear function from a graph or a table of values.
- To use function notation to evaluate functions, graph functions, and perform vertical translations of graphs of functions.
- To compare linear and nonlinear functions.
- To write an equation to represent an arithmetic sequence.

CPI #	Cumulative Progress Indicator (CPI)
A.CED.1	Create equations or inequalities in one variable and use them to solve problems.
A.CED.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
A.CED.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.
A.CED.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
A.REI.1	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
A.REI.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
A.REI.5	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
A.REI.6	Solve systems of linear equations exactly and approximately, focusing on pairs of linear equations in two variables.

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

A.REI.11	Explain why the x-coordinates of the points where the graphs of the equations $y=f(x)$ and $y=g(x)$ intersect are the solutions of the equation $f(x)=g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and / or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
A.REI.12	Graph the solutions to a linear inequality in two variables as a half-plane, and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
F.IF.1	Understand that a function from one set to another set assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y=f(x)$.
F.IF.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
F.IF.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
F.IF.6	Calculate and interpret the average rate of change of a function over a specified interval. Estimate the rate of change from a graph.
F.IF.7b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
F.BF.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.
F.BF.3	Identify the effect on the graph replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
F.LE.1b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to one another.
F.LE.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs.

Unit Vocabulary

- | | |
|---|--|
| <ul style="list-style-type: none"> ● Absolute value equation ● Literal equation ● Linear Equation ● Slope ● Inequality ● Solution Set | <ul style="list-style-type: none"> ● X-intercept ● Y-intercept ● Slope intercept form ● Standard form ● Linear Function ● Domain |
|---|--|

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

- System/Solution of linear equations
- System/Solution of linear inequalities

- Range
- Vertical Line Test

Evidence of Learning

Summative Assessment

- Unit exam
- PARCC

Benchmark Assessment: Teacher created benchmark

Equipment needed: Big Ideas text, mathematical manipulatives

Teacher Resources: teacher's edition; www.bigideasmath.com

Modifications: (Special Education, ELL, Gifted and Talented)

- Tiered Assignments
- Games
- Menus/Choice Boards
- Flexible grouping
- Individualizing lessons
- Compacting
- Varying question levels

Formative Assessments

- Quizzes
- Tests
- Performance Assessments

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Unit 2 Overview	
Content Area: Algebra	
Unit 2 Title: Exponential Equations and Functions	
Grade Level: 8 Advanced	
Unit Summary Write, graph, and solve expressions with exponents and square roots. Primary interdisciplinary connections: Science/Technology MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. 21st century themes: This unit will infuse the 21 st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP11. Use technology to enhance productively.	
Learning Targets	
Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.	
Unit Essential Questions <ul style="list-style-type: none">• How can you use inductive reasoning to observe patterns and write general rules involving properties of exponents?• What are the characteristics of an exponential function?• What are the characteristics of exponential growth?• What are the characteristics of exponential decay?	

CPI #	Cumulative Progress Indicator (CPI)
N.RN.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.
N.RN.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
N.RN.3	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

A.REI.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
A.REI.11	Explain why the x-coordinates of the points where the graphs of the equations $y=f(x)$ and $y=g(x)$ intersect are the solutions of the equation $f(x)=g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and / or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
F.BF.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.
F.BF.3	Identify the effect on the graph replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
F.IF.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
F.IF.7e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
F.LE.1a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
F.LE.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs.
A.SSE.1a	Interpret parts of an expression, such as terms, factors, and coefficients.
A.SSE.1b	Interpret complicated expressions by viewing one or more of their parts as a single entity.

Unit Vocabulary	
<ul style="list-style-type: none"> ● Exponential function ● Exponential growth 	<ul style="list-style-type: none"> ● Exponential decay
Evidence of Learning	
<p>Summative Assessment</p> <ul style="list-style-type: none"> ● Unit exam ● PARCC <p>Benchmark Assessment: Teacher created benchmark</p>	

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Equipment needed: text, mathematical manipulatives

Teacher Resources: teacher's edition; www.bigideasmath.com

Modifications: (Special Education, ELL, Gifted and Talented)

- Tiered Assignments
- Games
- Menus/Choice Boards
- Flexible grouping
- Individualizing lessons
- Compacting
- Varying question levels

Formative Assessments

- Quizzes
- Tests
- Performance Assessments

Unit 3 Overview**Content Area:** Algebra**Unit 3 Title:** Polynomial Equations and Factoring**Grade Level:** 8**Unit Summary**

Add, subtract, and multiply polynomials.

Primary interdisciplinary connections: Science/Technology

MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

21st century themes: This unit will infuse the 21st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Learning Targets

Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.

Unit Essential Questions

- How can you use algebra tiles to model and classify polynomials?
- How can you solve a polynomial equation that is written in factored form?
- How can you use common factors to write a polynomial in factored form?
- How can you recognize and factor special products?

Student Learning Objectives

- To identify monomials and classify polynomials.
- To add and subtract polynomials.
- To multiply polynomials.
- To use special product patterns to multiply binomials.
- To solve polynomial equations using the zero-product property.
- To factor polynomials using the greatest common factor.
- To factor $x^2 + bx + c$.
- To factor $ax^2 + bx + c$.
- To factor special products.
- To factor polynomials completely.

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

CPI #	Cumulative Progress Indicator (CPI)
A.SSE.1a	Interpret parts of an expression, such as terms, factors, and coefficients.
A.SSE.2	Use the structure of an expression to identify ways to rewrite it.
A.SSE.3a	Factor a quadratic expression to reveal the zeros of the function it defines.
A.APR.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
A.REI.4b	Solve quadratic equations by inspection, taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real number a and b .
Unit Vocabulary	
<ul style="list-style-type: none"> ● Monomial ● Polynomial ● Zero-Product Property 	<ul style="list-style-type: none"> ● Binomial ● Trinomial ● FOIL Method
Evidence of Learning	
<p>Summative Assessment</p> <ul style="list-style-type: none"> ● Unit exam ● PARCC <p>Benchmark Assessment: Teacher created benchmark</p> <p>Equipment needed: Big Ideas text, mathematical manipulatives</p> <p>Teacher Resources: teacher's edition; www.bigideasmath.com</p>	
<p>Modifications: (Special Education, ELL, Gifted and Talented)</p> <ul style="list-style-type: none"> · Tiered Assignments · Games · Menus/Choice Boards · Flexible grouping · Individualizing lessons · Compacting · Varying question levels 	
<p>Formative Assessments</p> <ul style="list-style-type: none"> ● Quizzes ● Tests ● Performance Assessments 	

Unit 4 Overview

Content Area: Algebra

Unit 4 Title: Quadratic and Square Root Functions

Grade Level: 8 Advanced

Unit Summary

Graph/Solve quadratic and square root functions.

Primary interdisciplinary connections: Science/Technology

MS-PS3-5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.

21st century themes: This unit will infuse the 21st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving.

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Learning Targets

Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.

Unit Essential Questions

- What are the characteristics of the graph of the quadratic function $y = ax^2$? How does the value of a affect the graph of $y = ax^2$?
- How does the value of c affect the graph of $y = ax^2 + c$?
- How can you find the vertex of the graph of $y = ax^2 + bx + c$?
- How can you compare the growth rates of linear, exponential, and quadratic functions?
- How can you use a graph to solve a quadratic equation in one variable?
- How can you use “completing the square” to solve a quadratic equation?
- How can you use the discriminant to determine the number of solutions of a quadratic equation?
- How can you solve a system of two equations when one is linear and the other is quadratic?
- How can you sketch the graph of a square root function?
- How can you solve an equation that contains square roots?

Student Learning Objectives

- To graph $y = ax^2$.
- To find and use the focus of a parabola.
- To graph $y = ax^2 + c$.

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

- To graph $y = ax^2 + bx + c$.
- To graph $y = a(x - h)^2 + k$.
- To identify linear, exponential, and quadratic functions.
- To solve quadratic equations by graphing.
- To solve quadratic equations using square roots.
- To solve quadratic equations by completing the square.
- To solve quadratic equations using the quadratic formula.
- To solve systems of linear and quadratic equations.
- To graph square root functions.
- To solve square root equations.

CPI #	Cumulative Progress Indicator (CPI)
F.BF.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.
F.IF.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.
F.IF.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
F.IF.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.
F.IF.7b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
F.LE.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
A.REI.4	Solve quadratic equations in one variable.
A.REI.4a	Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
A.REI.4b	Solve quadratic equations by inspection, taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .
A.REI.11	Explain why the x -coordinates of the points where the graphs of the equations $y=f(x)$ and $y=g(x)$ intersect are the solutions of the equation $f(x)=g(x)$; find the

Brigantine Public School District**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS**

	solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and / or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
N.RN.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
Unit Vocabulary	
<ul style="list-style-type: none">● Quadratic function● Vertex	<ul style="list-style-type: none">● Parabola● Square Root Function
Evidence of Learning	
Summative Assessment <ul style="list-style-type: none">● Unit exam● PARCC Benchmark Assessment: Teacher Created Benchmark Equipment needed: Big Ideas text, mathematical manipulatives Teacher Resources: teacher's edition; www.bigideasmath.com	
Modifications: (Special Education, ELL, Gifted and Talented) <ul style="list-style-type: none">● Tiered Assignments● Games● Menus/Choice Boards● Flexible grouping● Individualizing lessons● Compacting● Varying question levels	
Formative Assessments <ul style="list-style-type: none">● Quizzes● Tests● Performance Assessments	

Brigantine Public School DistrictENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Unit 5 Overview	
Content Area: Algebra	
Unit 5 Title: Rational Equations and Functions	
Grade Level: 8 Advanced	
Unit Summary Solve and graph rational equations and functions. Primary interdisciplinary connections: Science/Technology MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. 21st century themes: This unit will infuse the 21 st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP11. Use technology to enhance productively.	
Learning Targets	
Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.	
Unit Essential Questions <ul style="list-style-type: none">• How can you recognize when two variables vary directly? How can you recognize when they vary inversely?• What are the characteristics of the graph of a rational function?• How can you simplify a rational expression? What are the excluded values of a rational expression?	
Student Learning Objectives <ul style="list-style-type: none">• To write and graph direct and inverse variation equations.• To graph rational functions.• To simplify rational expressions.• To multiply and divide rational expressions.• To divide polynomials.• To add and subtract rational expressions.• To solve rational equations.	
CPI #	Cumulative Progress Indicator (CPI)
A.REI.10	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

	line).
F.BF.4a	Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse.
A.SSE.2	Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.
A.CED.1	Create equations and inequalities in one variable and use them to solve problems.
Unit Vocabulary	
<ul style="list-style-type: none"> Rational function 	<ul style="list-style-type: none"> Rational equation
Evidence of Learning	
<p>Summative Assessment</p> <ul style="list-style-type: none"> Unit exam PARCC <p>Benchmark Assessment: Teacher created benchmark</p> <p>Equipment needed: Big Idea text, mathematical manipulatives</p> <p>Teacher Resources: teacher's edition; www.bigideasmath.com</p>	
<p>Modifications: (Special Education, ELL, Gifted and Talented)</p> <ul style="list-style-type: none"> Tiered Assignments Games Menus/Choice Boards Flexible grouping Individualizing lessons Compacting Varying question levels 	
<p>Formative Assessments</p> <ul style="list-style-type: none"> Quizzes Tests Performance Assessments 	

Unit 6 Overview
Content Area: Algebra
Unit 6 Title: Data Analysis
Grade Level: 8 Advanced
<p>Unit Summary Solve problems dealing with a set of data.</p> <p>Primary interdisciplinary connections: Science/Technology</p> <p>9.1.8.D.5 Explain the economic principle of supply and demand.</p> <p>21st century themes: This unit will infuse the 21st Century Life and Careers standard 9.1, strand A. This strand includes critical thinking and problem solving.</p> <p>CRP2. Apply appropriate academic and technical skills.</p> <p>CRP4. Communicate clearly and effectively and with reason.</p> <p>CRP11. Use technology to enhance productively.</p>
Learning Targets
<p>Mathematical Practices: This unit will infuse the following mathematical practices: make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments and critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.</p>
<p>Unit Essential Questions</p> <ul style="list-style-type: none"> ● How can you use measures of central tendency to distribute an amount evenly among a group of people? ● How can you use data to predict an answer? ● How can you find a line that best models a data set? ● How can you display data in a way that helps you make decisions?
<p>Student Learning Objectives</p> <ul style="list-style-type: none"> ● To determine the effect an outlier has on the measures of central tendency for a data set. ● To find the range and standard deviation of a data set. ● To construct and analyze a box and whisker plot. ● To describe the shape of distribution and determine the best way to represent it. ● To make a scatter plot and identify a line of fit. ● To analyze lines of fit. ● To construct and analyze two-way tables. ● To choose and construct an appropriate data display.

Brigantine Public School District

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

CPI #	Cumulative Progress Indicator (CPI)
S.ID.1	Represent data with plots on the real number line.
S.ID.2	Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets.
S.ID.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points.
S.ID.5	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data. Recognize possible associations and trends in data.
S.ID.6a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data.
S.ID.6b	Informally assess the fit of a function by plotting and analyzing residuals.
S.ID.6c	Fit a linear function for a scatter plot that suggests a linear association.
S.ID.8	Compute and interpret the correlation coefficient of a linear fit.
S.ID.9	Distinguish between the correlation and causation.
Unit Vocabulary	
<ul style="list-style-type: none"> ● Measure of central tendency ● Line of best fit ● Scatter plot 	<ul style="list-style-type: none"> ● Standard deviation ● Box and whisker plot ● Quartile
Evidence of Learning	
<p>Summative Assessment</p> <ul style="list-style-type: none"> ● Unit exam ● PARCC <p>Benchmark Assessment: Teacher created benchmark</p> <p>Equipment needed: Big Ideas text, mathematical manipulatives</p> <p>Teacher Resources: Teacher’s edition; www.bigideasmath.com</p>	
<p>Modifications: (Special Education, ELL, Gifted and Talented)</p> <ul style="list-style-type: none"> · Tiered Assignments · Games · Menus/Choice Boards · Flexible grouping · Individualizing lessons · Compacting · Varying question levels 	
<p>Formative Assessments</p> <ul style="list-style-type: none"> ● Quizzes/Tests ● Performance Assessments 	