**Brigantine Public School District**

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

| Curriculum Map | |
|---|---|
| **Content Area: Mathematics** | |
| **Course Title: 8th Grade Math** | **Grade Level: 8th** |

| | |
|---|---|
| **Unit 1- Algebra Equation Review** | **1 week** |
| **Unit 2- Transformations, Angles and Triangles** | **6 weeks** |
| **Unit 3- Linear Equations, Systems, and Functions** | **9 weeks** |
| **Unit 4- Pythagorean Thm, Exponents and Scientific Notation** | **6 weeks** |
| **Unit 5- Volume and Surface Area** | **2 weeks** |
| **Unit 6- Data Analysis and Displays** | **3 weeks** |

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| **Date Revised:** | **August 2015** |
| **Board Approved on:** | **August 27,2015** |

**Brigantine Public School District**

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| Unit 1 Overview | |
|---|---|
| **Content Area:** Mathematics | |
| **Unit 1 Title:** Solving Equations | |
| **Grade Level:** 8 | |
| **Unit Summary**<br>Write and solve linear equations.<br>**Primary interdisciplinary connections:** Science/Technology<br>**MS-ESS1-2.** Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.<br>**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.<br>**CRP2.** Apply appropriate academic and technical skills.<br>**CRP4.** Communicate clearly and effectively and with reason.<br>**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**<br>• How can you use inductive reasoning to discover rules in mathematics?<br>• How can you solve a multi-step equation?<br>• How can you solve an equation that has variables on both sides?<br>• How can you use a formula for one measurement to write a formula for a different measurement?<br>• How can you convert from one measurement system to another? | |
| **Student Learning Objectives**<br>• To develop an understanding of writing and solving simple equations.<br>• To develop an understanding of solving multi-step equations.<br>• To explore equations with variables on both sides.<br>• To explore rewriting equations by using the formulas for perimeter, area, and volume.<br>• To discover that the perimeter (inches to feet) is always in a ratio of 12 to 1.<br>• To discover that the area (square inches to square feet) is always in a ratio of 144 to 1. | |
| **CPI #** | **Cumulative Progress Indicator (CPI)** |
| 8.EE.5 | Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. |

| | |
|---|---|
| 8.EE.7a | 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). |
| 8.EE.7b | Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. |

**Unit Vocabulary**

- Inverse Operations
- Like Terms
- Literal Equation
- Conversion Factor

**Evidence of Learning**

**Summative Assessment**

- Unit exam
- Benchmarking program
- PARCC

**Benchmark Assessment:** Teacher created benchmark

**Equipment needed:** Big Ideas text, mathematical manipulatives

**Teacher Resources:** teacher's edition

**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:** Mathematics |
| **Unit 2 Title:** Angles, Similarity and Transformations |
| **Grade Level:** 8 |
| **Unit Summary:** Classifying angles; angles and sides of triangles; angles of polygons; using similar triangles; parallel lines and transversals; identifying similar figures; perimeters and areas of similar figures; finding unknown measures in similar figures; scale drawings; translations; reflections; rotations.<br><br>**Primary interdisciplinary connections:** Science/Social Studies/Reading/Language Arts<br>**MS-ETS1-4.** Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.<br><br>**21st century themes:**<br>● Information and communication skills<br>● Higher order thinking skills<br>● Problem solving skills<br>● Independent learners<br>● Real-world connections<br>**CRP2**. Apply appropriate academic and technical skills.<br>**CRP4**. Communicate clearly and effectively with reason.<br>**CRP8.** Utilize critical thinking to make sense of problems and persevere in solving them. |

| Learning Targets | |
|---|---|
| **Mathematical Practices** | |
| CC.K-12.MP.1 | Make sense of problems and persevere in solving them. |
| CC.K-12.MP.2 | Reason abstractly and quantitatively. |

**Unit Essential Questions**

How can you classify triangles by their angles?

How can you find a formula for the sum of the angle measures of a polygon?

How can you use proportions to help make decisions in art, design, and magazine layouts?

How do changes in dimensions of similar geometric figures affect the perimeters and areas of the figures?

What information do you need to know to find the dimensions of a figure that is similar to another figure?

How can you use translations to make a tessellation?

How can you use reflections to classify a frieze pattern?

What are the three basic ways to move an object in a plane?

**Student Learning Objectives**

- Two angles are congruent if they have the same measure.
- The sum of the angle measures of a triangle is 180°.
- Figures that have the same shape but not necessarily the same size are called similar figures.
- If two figures are similar, then the ratio of their perimeters is equal to the ratio of their corresponding side lengths.
- If two figures are similar, then the ratio of their areas is equal to the ratio of their corresponding side lengths.
- Two triangles have the same angle measures if and only if they are similar.
- A translation is a transformation in which a figure slides but does not turn. Every point of the figure moves the same distance and in the same direction.
- A reflection, or flip, is a transformation in which a figure is reflected in a line called the line of reflection. A reflection creates a mirror image of the original figure.
- A rotation, or turn, is a transformation in which a figure is rotated about a point called the center of rotation. The number of degrees a figure rotates is the angle of rotation.

| CPI # | Cumulative Progress Indicator (CPI) |
|---|---|
| 8.G.1 | Verify experimentally the properties of rotations, reflections, and translations. |
| 8.G.3 | Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. |
| 8.G.5 | 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. *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*. |

**Unit Vocabulary**

- Complementary angles
- Supplementary angles
- Congruent angles
- Vertical angles
- Similar figures
- Corresponding angles/sides
- Indirect measurement
- Parallel Lines
- Transversal
- Transformation
- Image
- Translation
- Reflection
- Line of reflection
- Rotation
- Center of rotation
- Angle of rotation

| Evidence of Learning |
| --- |
| **Summative Assessment:**<br>● Chapter Review<br>● Performance Assessment<br>● Chapter Test<br>● Online Assessment<br>● PARCC<br>**Benchmark Assessment:** Teacher Created Benchmark<br>**Equipment needed:** Big Idea Textbook, Manipulatives Kits; Differentiated Centers<br>**Teacher Resources:** www.bigideasmath.com |
| **Modifications: (Special Education, ELL, Gifted and Talented)**<br>● Tiered Assignments<br>● Games<br>● Menus/Choice Boards<br>● Flexible grouping<br>● Individualizing lessons<br>● Compacting<br>● Varying question levels |
| **Formative Assessments**<br>● Lesson Quick Check<br>● Mid-Chapter Checkpoint |

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## Unit 3 Overview

**Content Area:** Mathematics

**Unit 3 Title:** Linear Equations, Inequalities, Systems and Functions

**Grade Level:** 8

**Unit Summary**

Graph linear equations in two variables and use those graphs to solve systems of linear equations. Write linear equations and linear systems in slope-intercept form. Solve and graph functions. Solve, write, and graph linear inequalities.

**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 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 the slope of a line be used to describe the line?
- How can you describe the graph of the equation $y = mx + b$ ?
- How can you describe the graph of the equation $ax + by = c$ ?
- How can you solve a system of linear equations?
- Can a system of linear equations have no solution? Can a system have many solutions?
- How can you use substitution and elimination to solve a system of linear equations?
- How can you write an equation of a line when you are given the slope and y-intercept of the line?
- How can you write an equation of a line when you are given the slope and a point on the line?
- How can you use a mapping diagram to show the relationship between two data sets?
- How can you represent a function in different ways?
- How can you use a graph to represent relationships between quantities without using

numbers?
- How can you use a linear function to describe a linear pattern?
- How can you recognize when a pattern in real life is linear or nonlinear?

**Student Learning Objectives**

- To use solution points to graph linear equations.
- To use any two points on a line to calculate the slope of that line.
- To explore the connection between the equation of a line and its graph.
- To explore the graph of a function in standard form.
- To explore solving a system of linear equations using graphs, tables, and algebra.
- To explore special systems of linear equations that have no solution or an infinite number of solutions.
- To determine the slope and y-intercept of a line by examining a graph.
- To explore writing an equation of a line given the slope and a point that is not on the y-axis.
- To explore how to write an equation for a line given two points on the line.
- To develop an intuitive understanding of solving real-life problems.
- To develop an understanding of domain and range by exploring familiar problems.
- To explore linear patterns in tables and graphs to write linear equations.
- To compare tables and graphs of linear and nonlinear functions.
- To review how to graph and write an inequality.
- To explore inequalities and solve simple inequalities using mental math.
- To gain an intuitive understanding of solving inequalities involving multiplication and division.
- To review geometric formulas and gain an intuitive understanding of solving multi-step inequalities.

| CPI # | Cumulative Progress Indicator (CPI) |
|---|---|
| 8.EE.5 | Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. |
| 8.EE.6 | Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at $b$. |
| 8.EE.7a | 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). |
| 8.EE.7b | Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property |

| | |
|---|---|
| | and collecting like terms. |
| 8.EE.8a | 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. |
| 8.EE.8b | Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. |
| 8.EE.8c | Solve real-world and mathematical problems leading to two linear equations in two variables. |
| 8.F.1 | 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. |
| 8.F.2 | Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). |
| 8.F.3 | Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. |
| 8.F.4 | 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 ($x$, $y$) 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. |
| 8.F.5 | 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. |

**Unit Vocabulary**

- Linear Equation
- Slope
- Rise
- Run
- X-Intercept
- Y-Intercept
- Linear Equation
- Slope-Intercept Form
- Standard Form
- System of Linear Equations
- Solution of a System of Linear Equations
- Input
- Output
- Relation
- Mapping Diagram
- Function
- Function Rule
- Linear Function
- Nonlinear Function

## Evidence of Learning

**Summative Assessment**

- Unit exam
- Benchmarking program
- PARCC

**Benchmark Assessment:** Teacher created benchmark

**Equipment needed:** Big Idea text, mathematical manipulatives

**Teacher Resources:** teacher's edition

**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 4 Overview** |
|---|
| **Content Area:** Mathematics |
| **Unit 4 Title:** Pythagorean Theorem, Exponents, and Scientific Notation |
| **Grade Level:** 8 |
| **Unit Summary:** Finding square roots; the Pythagorean theorem; approximating square roots; simplifying square roots; using the Pythagorean theory, Exponents; product of powers property; quotient of powers property; zero and negative exponents; reading scientific notation; writing scientific notation. |
| **Primary interdisciplinary connections:** Science/Social Studies/Reading/Language Arts<br>**MS-PS3-1.** Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object. |
| **21st century themes:**<br>• Information and communication skills<br>• Higher order thinking skills<br>• Problem solving skills<br>• Independent learners<br>• Real-world connections<br>**CRP2.** Apply appropriate academic and technical skills.<br>**CRP4.** Communicate clearly and effectively and with reason.<br>**CRP11.** Use technology to enhance productively. |

| **Learning Targets** | |
|---|---|
| **Mathematical Practices** | |
| CC.K-12.MP.1 | Make sense of problems and persevere in solving them. |
| CC.K-12.MP.2 | Reason abstractly and quantitatively. |

**Unit Essential Questions**

How can you find the side length of a square when you are given the area of the square?

How are the lengths of the sides of a right triangle related?

How can you find decimal approximations of square roots that are irrational?

How can you use a square root to describe the golden ratio?

How can you use the Pythagorean Theorem to solve real-life problems?

How can you use exponents to write numbers?
How can you multiply or divide two powers that have the same base?
How can you define zero and negative exponents?
How can you read numbers that are written in scientific notation?
How can you write a number in scientific notation?

**Student Learning Objectives**

- The sides of a right triangle have special names.
- Rational numbers and irrational numbers together form the set of real numbers.
- When using the converse of the Pythagorean Theorem, always substitute the length of the longest side for *c*.
- To multiply or divide powers with the same base, add their exponents.
- Any nonzero number to the zero power is equal to 1. Zero to the zero power is *undefined*.
- A number is written in scientific notation when it is represented as the product of a factor and a power of 10. The factor must be at least 1 and less than 10.
- When writing a number from scientific notation to standard form, the absolute value of the exponent tells you how many places to move the decimal point.
- Writing numbers in scientific notation: move the decimal point to the right of the first nonzero digit; count the number of places you moved the decimal point. This determines the exponent of the power of 10.

| **CPI #** | **Cumulative Progress Indicator (CPI)** |
|---|---|
| 8.EE.2 | Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where $p$ is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational. |
| 8.G.6 | Explain a proof of the Pythagorean Theorem and its converse. |
| 8.G.7 | Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. |
| 8.NS.1 | 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. |

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| 8.NS.2 | 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., $\pi^2$). *For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations*. |
| 8.G.8 | Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. |
| 8.EE.1 | Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$. |
| 8.EE.3 | 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. *For example, estimate the population of the United States as 3 times $10^8$ and the population of the world as 7 times $10^9$, and determine that the world population is more than 20 times larger*. |
| 8.EE.4 | 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. |

**Unit Vocabulary**

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|---|---|
| • Square root<br>• Perfect square<br>• Radical sign<br>• Radicand<br>• Cube Root<br>• Perfect Cube<br>• Theorem<br>• Legs<br>• Hypotenuse | • Pythagorean Theorem<br>• Irrational number<br>• Real numbers<br>• Pythagorean Formula<br>• Power<br>• Base<br>• Exponent<br>• Scientific Notation |

| Evidence of Learning |
|---|
| **Summative Assessment:**<br>• Chapter Review/Test<br>• Performance Assessment<br>• Chapter Test<br>• Online Assessment<br>• PARCC<br>**Benchmark Assessment:** Teacher created benchmark |
| **Equipment needed:** Big Ideas Text, Manipulatives Kits; Differentiated Centers |
| **Teacher Resources:** www.bigideasmath.com |
| **Modifications: (Special Education, ELL, Gifted and Talented)**<br>· **Tiered Assignments**<br>· **Games**<br>· **Menus/Choice Boards**<br>· **Flexible grouping**<br>· **Individualizing lessons**<br>· **Compacting**<br>· **Varying question levels** |
| **Formative Assessments** |
| · Lesson Quick Check<br>· Mid-Chapter Checkpoint |

**Brigantine Public School District**

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| Unit 5 Overview |
|---|
| **Content Area:** Mathematics |
| **Unit 5 Title:** Geometry: Volume, Surface Areas and Similar Solids |
| **Grade Level:** 8 |
| **Unit Summary**<br>Volume of cylinders, volume of cones, volume of spheres, surface areas and volumes of similar solids.<br>**Primary interdisciplinary connections:** Science/Technology<br>**MS-PS3-1.** Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.<br>**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.<br>**CRP2.** Apply appropriate academic and technical skills.<br>**CRP4.** Communicate clearly and effectively and with reason.<br>**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**<br>• How can you find the volume of a cylinder?<br>• How can you find the volume of a cone?<br>• How can you find the volume of a sphere?<br>• How can you find the surface area of similar solids?<br>• How can you find the volume of similar solids?<br>• How can you remember the formulas for surface area and volume?<br>• How can you estimate the volume of a composite solid?<br>• When the dimensions of a solid increase by a factor of *k*, how does the surface area change? How does the volume change? |
| **Student Learning Objectives**<br>• The volume *V* of a cylinder is the product of the area of the base and the height of the cylinder.<br>• The volume *V* of a pyramid is one-third the product of the area of the base and the height of the pyramid.<br>• The volume *V* of a cone is one-third the product of the area of the base and the height of the cone.<br>• If two solids are similar, then the ratio of their volumes is equal to the cube of the ratio |

of their corresponding linear measure.

- The surface area *S* of a cylinder is the sum of the areas of the bases and the lateral surface.

| CPI # | Cumulative Progress Indicator (CPI) |
|---|---|
| 8.G.9 | Know the formulas for volume of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. |

**Unit Vocabulary**

- Three-dimensional figure
- Polyhedron
- Lateral face
- Surface area
- Net
- Regular pyramid
- Slant height
- Composite solid
- Similar Solid
- Volume

**Evidence of Learning**

**Summative Assessment**

- Unit exam
- Benchmarking program
- PARCC

**Benchmark Assessment:** Teacher created benchmark

**Equipment needed:** Big Ideas text, mathematical manipulatives

**Teacher Resources:** teacher's edition

**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**

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| Unit 6 Overview | |
|---|---|
| **Content Area:** Mathematics | |
| **Unit 6 Title:** Data Analysis and Displays | |
| **Grade Level:** 8 | |
| **Unit Summary**<br>Solve problems dealing with a set of data.<br>**Primary interdisciplinary connections:** Science/Technology<br>**9.1.8.D.5** Explain the economic principle of supply and demand.<br>**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.<br>**CRP2.** Apply appropriate academic and technical skills.<br>**CRP4.** Communicate clearly and effectively and with reason.<br>**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**<br>• How can you use measures of central tendency to distribute an amount evenly among a group of people?<br>• How can you use a box-and-whisker plot to describe a population?<br>• How can you use data to predict an event?<br>• How can you display data in a way that helps you make decisions? | |
| **Student Learning Objectives**<br>• To study measures of central tendency as well as fair and unfair distributions.<br>• To gain a general understanding of how a box-and-whisker plot is constructed.<br>• To gain an intuitive understanding of how to construct scatter plots.<br>• To formulate equations for the line of best fit.<br>• To review data displays. | |
| **CPI #** | **Cumulative Progress Indicator (CPI)** |
| 8.SP.1 | 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. |
| 8.SP.2 | 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. |
| 8.SP.3 | Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. |
| 8.SP.4 | 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. |

**Unit Vocabulary**

- Measure of Central Tendency
- Box-and-Whisker Plot
- Quartiles
- Scatter Plot
- Line of Best Fit

**Evidence of Learning**

**Summative Assessment**

- Unit exam
- Benchmarking program
- PARCC

**Benchmark Assessment:** Teacher created benchmark

**Equipment needed:** Big Ideas text, mathematical manipulatives

**Teacher Resources:** teacher's edition

**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