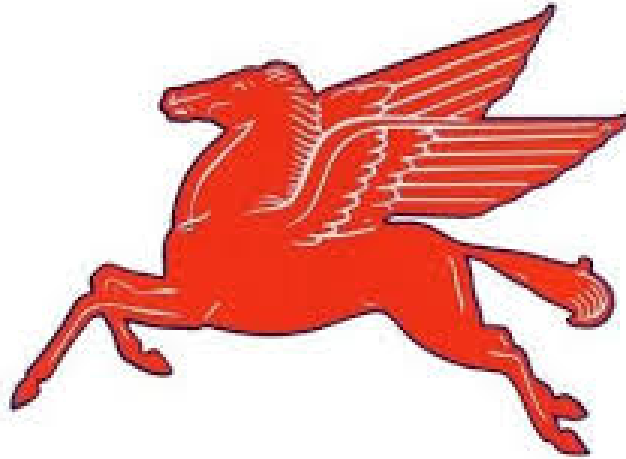


Curriculum Management System

PAULSBORO PUBLIC SCHOOLS



Mathematics - Grade 8

UPDATED 2020-2021

For adoption by all regular education programs as specified and for adoption or adaptation by all Special Education Programs in accordance with Board of Education Policy.

Board Approved: October 2021

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Paulsboro Public Schools

Mission Statement

The mission of the Paulsboro School District is to provide each student the educational opportunities to assist in attaining their full potential in a democratic society. Our instructional programs will take place in a responsive, community based school system that fosters respect among all people. Our expectation is that all students will achieve the New Jersey Core Curriculum Content Standards (NJCCCS) at every grade level.

DEFINITIONS

NJ Student Learning Standards – Clear and specific benchmarks for students’ achievement in various content areas. The standards ensure that each child receives a “thorough and efficient education”.

21st Century Life and Careers Standards – These skills that are comprised of the “12 Career Ready Practices” and Standards 9.1 through 9.4. The organization of these standards intends to enable students to make informed decisions that prepare them to engage as active citizens in global society and be prepared for the opportunities of the 21st century workplace.

ELA Companion Standards – Consists of standards for reading and writing in History, Social Studies, Science and Technical subjects. ELA curricula

Gifted and Talented Learners – Students with high-ability who may need more depth and complexity in instruction.

Special Education Learners – Students in need of supports and interventions to improve student achievement

English Language Learners – Students with a native language other than English or who are at varying degrees of English language proficiency.

Pacing Guide

TOPIC	# OF DAYS	DATES	COMMENTS
<i>1 – Real Numbers</i>	<i>45</i>	<i>Sept – Mid Nov.</i>	<i>Operations with Integers compared to operations with Rational Numbers</i>
2 – Functions and Systems	45	Mid Nov. – Jan.	Recognize and Represent Proportional Relationships in verbal descriptions, tables, equations and Graphs
3 – Congruence and Pythagorean Theorem	45	Feb. – Mid April	Understanding that a percent is a ratio that represents part of a whole
4 – Surface area, Volume, Bivariate Data	45	Mid April - June	Analyzing equivalent Expressions

QUARTER 1 -

Big Idea: Real Numbers

Topic: Comparing, ordering, evaluating rational and irrational numbers, square roots, cube roots and solving equations involving them.

Standards:	GOAL	
NJ Student Learning Standards 8.NS.A.1 8.NS.A.2 8.EE.A.1 8.EE.A.2 8.EE.A.3 8.EE.A.4 21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i>	SWBAT identify and interpret real numbers.	
	Essential Questions	Assessments
	1. What are real numbers and how are they used to solve problems? 2. How can you write decimals as fractions? 3. How is an irrational number different from a rational number? 4. How can you compare and order rational and irrational numbers? 5. How do you evaluate cube roots and square roots? 6. How can you solve equations with squares and cubes? 7. How do properties of integer exponents help you write equivalent expressions? 8. When would you use a power of 10 to estimate a quantity?	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project

<p>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</p> <p>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</p> <p>ELA Companion Standards: LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts. LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</p> <p>Anchor Standards: LA.K-12.NJSLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. LA.K-12.NJSLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone. LA.K-12.NJSLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.</p> <p>MODIFICATIONS: Advanced Learner: Example 2: Identify repeating patterns.</p> <p>Students with Disabilities: Example 3: What is the place value of the 1st repeating decimal?</p>	<p>9. What is scientific notation and when, why and how is it used?</p>	
	<p>Enduring Understanding</p>	<p>Resources</p>
	<ol style="list-style-type: none"> How do we use radical and integer exponents to rewrite and solve expressions? How are rational numbers used to approximate irrational numbers? 	<p>enVision Math 2.0 SavvasRealize.com Virtualnerd.com</p>

<p>English Language Learners: What does it mean to “mix” things...and how does this relate to mixed fractions.</p> <p>.</p>		
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QUARTER 1 -
Big Idea: Analyze and Solve Linear Equations
Topic: Solve various types of equations, including special case scenarios and to understand and analyze linear equations.

<p>Standards: NJ Student Learning Standards 8.EE.C.7a 8.EE.C.7b 8.EE.B.5 8.EE.B.6</p> <p>21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i></p>	GOAL	
	SWBAT analyze and solve linear equations.	
	<p>Essential Questions</p> <ol style="list-style-type: none"> 1. How do you solve equations that contain like terms? 2. How do you use inverse operations to solve equations with variables on both sides? 3. How can you use the Distributive Property to solve multistep equations? 4. Will a one-variable equation always have only one solution? 5. How can you compare proportional relationships represented in different ways? 6. What is slope and how does it relate to the equation for a proportional relationship? 7. What is the y-intercept and what does it indicate? 	<p>Assessments</p> <p>Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project</p>

<p>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</p> <p>ELA Companion Standards: LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts. LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</p> <p>Anchor Standards: LA.K-12.NJLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. LA.K-12.NJLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone. LA.K-12.NJLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.</p> <p>MODIFICATIONS: Advanced Learner: Example 1: Solve the equations and explain how you got your answer.</p> <p>Students with Disabilities: Example 3: Explain the method for adding integers with opposite signs.</p>	<p>8. What is the equation of a line for a non-proportional relationship?</p>	
	<p>Enduring Understanding Resources</p>	
	<p>1. What connections can be made between proportional relationships, lines, and linear equations?</p> <p>2. How do we analyze and solve linear equations and pairs of simultaneous linear equations?</p>	<p>enVision Math 2.0 SavvasRealize.com Virtualnerd.com</p>

<p>English Language Learners: Have students rewrite example one, making it shorter but with all the important information.</p>		
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QUARTER 2 -
Big Idea: Use Functions to Model Relationships
Topic: Understand and make connections between and among relations and functions, compare linear and nonlinear functions, construct functions to model linear relationships and sketch from verbal descriptions, determine intervals of increase and decrease.

<p>Standards: NJ Student Learning Standards 8.SP.A.1 8.SP.A.2 8.SP.A.3 8.SP.A.4 8.F.A.3 8.F.B.4</p> <p>21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards:</p>	GOAL	
	SWBAT use functions to model relationships.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> 1. When is a relation a function? 2. What are different representations of a function? 3. How do you compare two functions? 4. How can you use a function to represent a linear relationship? 5. How does a qualitative graph describe the relationship between quantities? 6. How does the sketch of a graph of a function help describe its behavior? 	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project
	Enduring Understanding	Resources

TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue
TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.
TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..

ELA Companion Standards:

LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions
LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

Anchor Standards:

LA.K-12.NJSLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
LA.K-12.NJSLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
LA.K-12.NJSLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

MODIFICATIONS:

Advanced Learner: Example 3: Would Heather be able to determine within the hour how long the family was at the museum?

1. How do we define, evaluate and compare functions?
2. How can functions be used to model relationships between quantities?

enVision Math 2.0
SavvasRealize.com
Virtualnerd.com

<p>Students with Disabilities: Example 2: What is the y coordinate, and how do you know that?</p>		
<p>English Language Learners: Example 2: What is the input in the example?</p>		

QUARTER 2 -
Big Idea: Analyze and Solve Systems of Linear Equations
Topic: Estimate solutions by inspection, solving systems by graphing, substitution, and elimination.

<p>Standards: NJ Student Learning Standards 8.EE.C.8a 8.EE.C.8b 8.EE.C.8c</p> <p>21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i> <i>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</i></p> <p>ELA Companion Standards: <i>LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an</i></p>	GOAL	
	SWBAT analyze and solve systems of linear equations.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> 1. How are slopes and y-intercepts related to the number of solutions of a system of linear equations? 2. How does the graph of a system of linear equations represent its solution? 3. When is substitution a useful method for solving systems of equations? 4. How are the properties of equality used to solve systems of linear equations? 	<p>Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project</p>
Enduring Understanding	Resources	
<ol style="list-style-type: none"> 1. What are the ways we can analyze and solve linear equations and pairs of simultaneous linear equations? 	<p>enVision Math 2.0 SavvasRealize.com Virtualnerd.com</p>	

accurate summary of the source distinct from prior knowledge or opinions

LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

Anchor Standards:

LA.K-12.NJSLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

LA.K-12.NJSLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

LA.K-12.NJSLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

MODIFICATIONS:

Advanced Learner: Example 1 – Complete the table.

Students with Disabilities: Example 3: Are all of the pairs solutions to the system?

English Language Learners: Define Equation, Slope, and y-intercept.

QUARTER 3-

Big Idea: Congruence and Similarity

Topic: Analyze and compose translations, reflections, rotations, dilations, understand congruent and similar figures, angles, lines, transversals and reason about parallel lines. Interior and exterior angles of triangles and angle-angle- triangle similarity.

<p>Standards: NJ Student Learning Standards 8.G.A.1 8.G.A.1a 8.G.A.1b 8.G.A.1c 8.G.A.2 8.G.A.3 8.G.A.4 8.G.A.5 21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i> <i>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</i></p> <p>ELA Companion Standards: <i>LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions</i></p>	GOAL	
	SWBAT compare congruence and similarity.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> 1. How does a translation affect the properties of a two-dimensional figure? 2. How does a reflection affect the properties of a two-dimensional figure? 3. How does a rotation affect the properties of two-dimensional figure? 4. How can you use a sequence of transformations to map a pre-image to its image? 5. How does a sequence of translations, reflections, and rotations result in congruent figures? 6. What if the relationship between a pre-image and its image after a dilation? 7. How are similar figures related by a sequence of transformations? 8. What are the relationships among angles that are created when a line intersects two parallel lines? 9. How are the interior and exterior angles of a triangle related? 10. How can you use angle measures to determine whether two triangles are similar? 	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project
	Enduring Understanding	Resources
<ol style="list-style-type: none"> 1. How can you show that two figures are either congruent or similar to one another? 	enVision Math 2.0 SavvasRealize.com Virtualnerd.com	

LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

Anchor Standards:

LA.K-12.NJLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

LA.K-12.NJLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

LA.K-12.NJLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

MODIFICATIONS:

Advanced Learner: Example 2 – If the figure is moved 8 units down, how would you determine the y coordinates?

Students with Disabilities: Example 1 - How does each corner of the fire pit move from the new figure?

English Language Learners: What does the prefix “Pre” mean?

QUARTER 3 -

Big Idea: Understand and Apply the Pythagorean Theorem

Topic: Understand the Pythagorean Theorem and its converse, apply the Pythagoren Theorem to solve problems and find the distance in the coordinate plane.

<p>Standards: NJ Student Learning Standards 8.G.B.6 8.G.B.7 8.G.B.8 21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i> <i>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</i></p> <p>ELA Companion Standards: <i>LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions</i> <i>LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</i> <i>LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</i></p> <p>Anchor Standards:</p>	GOAL	
	SWBAT understand and apply the Pythagorean theorem.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> How does the Pythagorean Theorem relate the side lengths of a right triangle? How can you determine whether a triangle is a right triangle? What types of problems can be solved using the Pythagorean Theorem? How can you use the Pythagorean Theorem to find the distance between two points? 	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project
	Enduring Understanding	Resources
<ol style="list-style-type: none"> How can you use the Pythagorean Theorem to solve problems? 	enVision Math 2.0 SavvasRealize.com Virtualnerd.com	

LA.K-12.NJSLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

LA.K-12.NJSLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

LA.K-12.NJSLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

MODIFICATIONS:

Advanced Learner: Example 1 - What specific triangle has two equal legs and a right angle?

Students with Disabilities: Example 2: Write several exponential expressions in expanded form.

English Language Learners: Example 3: What is a right triangle. What does “Substitute” mean?

QUARTER 4 -

Big Idea: Solve Problems Involving Surface Area and Volume

Topic: Find the surface area of 3-dimensional figures, find the volume of cylinders, cones and spheres.

<p>Standards: NJ Student Learning Standards 8.G.C.9 21* College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i> <i>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</i></p> <p>ELA Companion Standards: <i>LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions</i> <i>LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</i> <i>LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.</i></p> <p>Anchor Standards: <i>LA.K-12.NJLSA.R1 - [Anchor Standard] - Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual</i></p>	GOAL	
	SWBAT solve problems involving surface area and volume.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> How are the areas of polygons used to find the surface area formulas for 3-dimensional figures? How is the volume of a cylinder related to the volume of a rectangular prism? How is the volume of a cone related to the volume of cylinder? How is the volume of a sphere related to the volume of a cone? 	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project
	Enduring Understanding	Resources
<ol style="list-style-type: none"> How can you find the volumes and surface areas of three-dimensional figures? 	enVision Math 2.0 SavvasRealize.com Virtualherd.com	

evidence when writing or speaking to support conclusions drawn from the text.

LA.K-12.NJSLSA.R4 - [Anchor Standard] - Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

LA.K-12.NJSLSA.R7 - [Anchor Standard] - Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

MODIFICATIONS:

Advanced Learner: Example 3: What is the area of the circle?

Students with Disabilities: Example 2: What is “R” in this problem and what is “L”?

English Language Learners: Example 1: what does painted on all surfaces mean?

QUARTER 4 -

Big Idea: Investigate Bivariate Data

Topic: Construct and interpret scatter plots, analyze linear associations, use linear models to make predictions, interpret two-way frequency and relative frequency tables.

<p>Standards: NJ Student Learning Standards 8.SP.A.1 8.SP.A.2 8.SP.A.3 8.SP.A.4 8.F.A.3 8.F.B.4 21st College and Career Readiness: CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. Work productively in teams while using cultural global competence</p> <p>Technology Standards: <i>TECH.8.1.12.A.3 - [Cumulative Progress Indicator] - Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue</i> <i>TECH.8.1.12.B.CS2 - [Content Statement] - Create original works as a means of personal or group expression.</i> <i>TECH.8.2.12.A.CS3 - [Content Statement] - The relationships among technologies and the connections between technology and other fields of study..</i></p> <p>ELA Companion Standards: <i>LA.RH.6-8.2 - [Progress Indicator] - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions</i> <i>LA.RH.6-8.7 - [Progress Indicator] - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.</i> <i>LA.RST.6-8.4 - [Progress Indicator] - Determine the meaning of symbols, key terms, and other domain-specific words and phrases</i></p>	GOAL	
	SWBAT investigate Bivariate data.	
	Essential Questions	Assessments
	<ol style="list-style-type: none"> 1. How does a scatter plot show the relationship between paired data? 2. How can you describe the association of two data sets? 3. How do linear models help you to make a prediction? 4. How does a two-way frequency table show the relationships between sets of paired data? 5. What is the advantage of a two-way relative frequency table for showing relationships between sets of paired data? 	Text Practice & Problem Solving worksheets Mid-Topic Checkpoint and Performance Task Teacher created worksheets Fluency Practice Activity Topic Assessment and/or Performance Assessment STEM Project
	Enduring Understanding	Resources
<ol style="list-style-type: none"> 1. How can you represent the relationship between paired data and use the representation to make predictions? 	enVision Math 2.0 SavvasRealize.com Virtualnerd.com	

as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

Anchor Standards:

LA.K-12.NJSLSA.R1 - [Anchor Standard] - *Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.*

LA.K-12.NJSLSA.R4 - [Anchor Standard] - *Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.*

LA.K-12.NJSLSA.R7 - [Anchor Standard] - *Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*

MODIFICATIONS:

Advanced Learner: Give two real world examples of bivariate data representation.

Students with Disabilities: Define and give an example of a scatter-plot.

English Language Learners: Define Data, Bivariate, and paired data.

Grade 8
COURSE BENCHMARKS

At the end of grade 8 students will be able to:

1. Make sense of rational and irrational numbers, and be able to order them.
2. Use the properties of exponents to simplify exponential expressions.
3. Use properties of operations to generate equivalent expressions.
4. Analyze connections between linear equations and how to compare them.
5. Use functions to model linear relationships.
6. Represent the relationship between paired data and use the representation to make predictions.
7. Solve and analyze a system of linear equations.
8. Show that two figures are congruent or similar to one another.
9. Use the Pythagorean theorem to solve problems with right triangles.