Math 7 Curriculum

This curricula and accompanying instructional materials have been developed to align with the NJSLS and in accordance with the NJ Department of Education's guidelines to include: Curriculum designed to meet grade level expectations, integrated accommodations and modifications for students with IEPs, 504s, ELLs, and gifted and talented students, assessments including benchmarks, formative, summative, and alternative assessments, a list of core instructional and supplemental materials, pacing guide, interdisciplinary connections, integration of 21st century skills, integration of technology, and integration of 21st Century Life and Career standards.

About the Standards

In 1996, the New Jersey State Board of Education adopted the state's first set of academic standards called the Core Curriculum Content Standards. The standards described what students should know and be able to do upon completion of a thirteen-year public school education. Over the last twenty years, New Jersey's academic standards have laid the foundation for local district curricula that is used by teachers in their daily lesson plans.

Revised every five years, the standards provide local school districts with clear and specific benchmarks for student achievement in nine content areas. Developed and reviewed by panels of teachers, administrators, parents, students, and representatives from higher education, business, and the community, the standards are influenced by national standards, research-based practice, and student needs. The standards define a "Thorough and Efficient Education" as guaranteed in 1875 by the New Jersey Constitution. Currently the standards are designed to prepare our students for college and careers by emphasizing high-level skills needed for tomorrow's world.

The New Jersey Student Learning Standards include Preschool Teaching and Learning Standards, as well as nine K-12 standards for the following content areas: **21st Century Life and Careers, Comprehensive Health and Physical Education, English Language Arts, Mathematics, Science, Social Studies, Technology, Visual and Performing Arts, World Languages**

The most recent review and revision of the standards occurred in 2014. However, the standards in language arts and math underwent an additional review in 2015 with adoption by the New Jersey State Board of Education in May 2016.

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum

Content Area: Math	
Course Title: Math 7	**Grade level: 7**
Unit 1: Chapters 1-3 ● **Integers and** ● **Absolute Value** ● **Operations with integers (addition, subtraction, multiplication, & division)** ● **Rational numbers** ● **Operations with rational numbers (addition, subtraction, multiplication, & division)** ● **Algebraic expressions** ● **Adding and subtracting linear expressions** ● **Solving equations using addition or subtraction** ● **Solving equations using multiplication or division** ● **Solving two-step equations**	**Dates for Units** **Sept. to the end of Oct.**
Unit 2: Chapters 4-6 ● **Writing and graphing inequalities** ● **Solving inequalities using addition or subtraction** ● **Solving inequalities using multiplication or division** ● **Solving two-step inequalities** ● **Ratios and rates** ● **Proportions** ● **Writing proportions** ● **Solving proportions** ● **Slope** ● **Direct Variation** ● **Percents and decimals**	**Dates for Units:** **Nov. to Late January**

Comparing and ordering fractions, decimals, & percents **The percent proportion** **The percent equation** **Percents of increase and decrease** **Discounts and markups** **Simple interest**	
Unit 3: Chapters 7-8 **Adjacent and vertical angles** **Complementary and supplementary angles** **Triangles** **Quadrilaterals** **Scale drawings** **Circles and circumference** **Perimeters of composite figures** **Areas of circles** **Areas of composite figures**	**Dates for Units:** **Late Jan. to Early March**
Unit 4: Chapters 9-10 **Surface areas of prisms** **Surface areas of pyramids** **Volumes of prisms** **Volumes of pyramids** **Outcomes and events** **Probability** **Experimental and theoretical probability** **Compound events** **Independent and dependent events** **Samples and populations** **Comparing populations**	**Dates for Units:** **Early March to Mid May**
Date Created:	**Board Approved On:**

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum Unit 1 Overview
Content Area: Math
Unit Title:Unit 1
Target Course/Grade Level: Grade 7
Unit Summary: In Unit I we will: ● Determine integers and their absolute value-distance from zero on a number line   ● Add, subtract, multiply, and divide integers   ● Define rational numbers   ● Add, subtract, multiply, and divide rational numbers   ● Define parts of an expression   ● Apply properties of operations to add, subtract, factor, and expand linear expressions with rational coefficients.   ● Rewrite and simplify algebraic expressions

Interdisciplinary Connections:
 Language Arts
Science
Art
History

21st   Century Themes, Skills, and Standards:
- **CRP11. Use technology to enhance productivity**
- **CRP2. Apply appropriate academic and technical skills.**
- **CRP4. Communicate clearly and effectively and with reason.**
- **CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.**

(State 21st century themes here). Link http://www.state.nj.us/education/cccs/2014/career/
Example: Technology utilization in the form of …………
 21st Century Life and Career Standard 9.1, including critical thinking, problem solving, tivity, innovation, collaboration, teamwork and leadership, cross-cultural understanding and rpersonal communication and science.

Learning Targets

CPI #	Cumulative Progress Indicators (CPI) for Unit 1
1) Pre-course test	

2) Quiz 1.1-1.3	7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram
3) Quiz 1.4-1.5	7.NS.2. Apply and extend previous understandings of multiplications and division and of fractions to multiply and divide rational numbers
4) Chapter 1 Vocabulary quiz	
5) Chapter 1 test	7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram 7.NS.2. Apply and extend previous understandings of multiplications and division and of fractions to multiply and divide rational numbers 7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.
6) Standards assessment	7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram 7.NS.2. Apply and extend previous understandings of multiplications and division and of fractions to multiply and divide rational numbers 7.NS.3. Solve real-world and mathematical problems involving the four operations with rational numbers.
7) Quiz 2.1-2.2	7.NS.2.b Understand that integers can be divided,

	provided that the de divisor is not zero, and every quotient of integers (with non-zero
	
	    divisor) is a rational number. If p and q are integers, then-(p/q)=(-p)/q=p/(-q)
	
	    7.NS.1.b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or
	    negative. Show that a number and its opposite have a sum of 0 (are
	    additive inverses). Interpret sums of rational numbers by describing
	    real-world contexts.
	
	    7.NS.1. a. Describe situations in which opposite quantities combine to
	    make 0.

8) Quiz 2.3-2.4	7.NS.1.c. Understand subtraction of rational numbers as adding the additive inverse, p – q = p + (–q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts
	    7.NS.1.d. Apply properties of operations as strategies to add and subtract rational numbers.
	
	    7.NS.2.a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
	
	    7.NS.2.b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then –(p/q) = (–p)/q = p/(–q). Interpret quotients of rational numbers by describing real world contexts.

9) Chapter 2 Vocabulary Quiz	
10) Chapter 2 Test	7.NS.2.b Understand that integers can be divided, provided that the de divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then-(p/q)=(-p)/q=p/(-q) 7.NS.1.b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. 7.NS.1. a. Describe situations in which opposite quantities combine to make 0. 7.NS.1.c. Understand subtraction of rational numbers as adding the additive inverse, p − q = p + (−q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts 7.NS.1.d. Apply properties of operations as strategies to add and subtract rational numbers. 7.NS.2.a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed

	numbers. Interpret products of rational numbers by describing
	    real-world contexts.
	
	7.NS.2.b. Understand that integers can be divided, provided that the
	    divisor is not zero, and every quotient of integers (with non-zero
	    divisor) is a rational number. If p and q are integers, then $-(p/q) =$
	    $(-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing
	    real-world contexts.

11) Standards Assessment	

12) Quiz 3.1-3.2	7.EE.1. Apply properties of operations as strategies to add, subtract,
	    factor, and expand linear expressions with rational coefficients.
	    7.EE.2. Understand that rewriting an expression in different forms in a
	    problem context can shed light on the problem and how the quantities
	    in it are related.

13) Quiz 3.3-3.5	7.EE. 4. Use variables to represent quantities in a real-world or
	    mathematical problem, and construct simple equations and inequalities
	    to solve problems by reasoning about the quantities.
	        a. Solve word problems leading to equations of the form px + q
	        = r and p(x + q) = r, where p, q, and r are specific rational
	        numbers. Solve equations of these forms fluently. Compare an
	        algebraic solution to an arithmetic solution, identifying the

	sequence of the operations used in each approach.
	b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.
14) Chapter 3 Vocabulary quiz	
15) Chapter 3 Test	7.EE.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. 7.EE.2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
16) Benchmark I	Benchmark I encompasses all standards used throughout bters 1-3

Unit Enduring Questions: ● How do I apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers? ● How do I use properties of operations to generate equivalent expressions?	**Unit Enduring Understandings:** ● Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers ● Use properties of operations to generate equivalent expressions

Unit Objectives:	Unit Objectives:
Students will know….	*Students will be able to…....*
● How to differentiate between integers and rational numbers.	● Find the absolute value of an integer
● Understand that the absolute value of integers is the distance from zero on the number line	● Use PEMDAS when performing operations using integers (adding, subtracting, multiplying, and dividing)
● The different parts of an algebraic expression	● Simplify an algebraic expression
	● Substitute a value for a given variable

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum Unit 2 Overview

Content Area: Math

Unit Title: Unit 2

Target Course/Grade Level: Grade 7

Unit Summary:

In Unit II we will:

- Write inequalities
- Graph inequalities
- Solve inequalities by using addition or subtraction
- Solve inequalities by multiplication or division
- Solve two-step inequalities
- Write ratios and rates
- Write and solve proportions
- Interpret slope on a coordinate plane
- Interpret direct variation on a coordinate plane
- Evaluate percents and decimals
- Compare and order decimals, fractions, and percents
- Solve percent problems using the Percent Proportion
- Solve percent problems using the Percent Equation
- Find percent increase or decrease
- Find the markup or discount

Interdisciplinary Connections:

Language Arts

Science

Art

History

21st Century Themes, Skills, and Standards:
- CRP.K-12.CRP2 Apply appropriate academic and technical skills.
- CRP.K-12.CRP4 Communicate clearly and effectively and with reason.
- CRP.K-12.CRP11 Use technology to enhance productivity.
- CRP.K-12.CRP8 Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP.K-12.CRP7 Employ valid and reliable research strategies.
- TECH.8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- TECH.8.1.12.F.1 Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

●9.1.12.B.8 Describe and calculate interest and fees that are applied to various forms of spending, debt, and saving.

Learning Targets

CPI #	Cumulative Progress Indicators (CPI) for Unit 2
1) Quiz 4.1-4.2	7.EE.4.b. Solve word problems leading to inequalities of the form px q > r or px + q < r, where p, q, and r are specific rational numbers. ph the solution set of the inequality and interpret it in the context of the problem.
2) Quiz 4.3-4.4	7.EE.4.b. Solve word problems leading to inequalities of the form px q > r or px + q < r, where p, q, and r are specific rational numbers. ph the solution set of the inequality and interpret it in the context of the problem.
3) Chapter 4 Vocabulary quiz	

4) Chapter 4 Test	7.EE.4.b. Solve word problems leading to inequalities of the form px q > r or px + q < r, where p, q, and r are specific rational numbers. ph the solution set of the inequality and interpret it in the context of the problem.
5) Standards Assessment	7.EE.4.b. Solve word problems leading to inequalities of the form px q > r or px + q < r, where p, q, and r are specific rational numbers. ph the solution set of the inequality and interpret it in the context of the problem.
6) Quiz 5.1-5.3	7.RP.1. Compute unit rates associated with ratios of fractions, uding Ratio of lengths, areas and other quantities measured in like or erent units.

7) Quiz 5.4-5.6	7.RP.2. Recognize and represent proportional relationships between
	quantities.
	    a. Decide whether two quantities are in a proportional
	    relationship, e.g., by testing for equivalent ratios in a table or
	phing on a coordinate plane and observing whether the graph is a
	ight line
	     through the origin.
	    b. Identify the constant of proportionality (unit rate) in tables,
	phs,
	    equations, diagrams, and verbal descriptions of proportional
	    relationships.
	   c. Represent proportional relationships by equations.
	   d. Explain what a point (x, y) on the graph of a proportional
	tionship
	    means in terms of the situation, with special attention to the points
	
	    0) and (1, r) where r is the unit rate.

8) Chapter 5 Vocabulary quiz	

9) Chapter 5 Test	7.RP.1. Compute unit rates associated with ratios of fractions, uding
	
	Ratio of lengths, areas and other quantities measured in like or erent
	
	units.
	
	7.RP.2. Recognize and represent proportional relationships between quantities.
	   a. Decide whether two quantities are in a proportional
	   relationship, e.g., by testing for equivalent ratios in a table or hing on a coordinate plane and observing whether the graph is a ight line
	   through the origin.
	   b. Identify the constant of proportionality (unit rate) in tables, hs,
	   equations, diagrams, and verbal descriptions of proportional
	   relationships.
	  c. Represent proportional relationships by equations.
	  d. Explain what a point (x, y) on the graph of a proportional tionship
	   means in terms of the situation, with special attention to the points
	
	   0) and (1, r) where r is the unit rate.

10) Quiz 6.1-6.4	7.EE.B. Solve real-life and mathematical problems using numerical
	
	algebraic expressions and equations.
	   3. Solve multi-step real-life and mathematical problems posed with
	     positive and negative rational numbers in any form (whole bers,
	     fractions, and decimals), using tools strategically. Apply erties of
	     operations to calculate with numbers in any form; convert veen
	     forms as appropriate; and assess the reasonableness of answers
	     using mental computation and estimation strategies.

	7.RP.A. Analyze proportional relationships and use them to solve real-world and mathematical problems.
	    3. Use proportional relationships to solve multistep ratio and ~~cent~~
	      problems.

11) Quiz 6.5-6.7	7.RP.A. Analyze proportional relationships and use them to solve real-world and mathematical problems.
	    3. Use proportional relationships to solve multistep ratio and ~~cent~~
	      problems.

12) Chapter 6 Vocabulary quiz	

13) Chapter 6 Test	7.EE.B. Solve real-life and mathematical problems using numerical algebraic expressions and equations.
	    3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole ~~bers,~~
	      fractions, and decimals), using tools strategically. Apply ~~perties of~~
	       operations to calculate with numbers in any form; convert ~~veen~~
	       forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
	
	7.RP.A. Analyze proportional relationships and use them to solve real-world and mathematical problems.
	    3. Use proportional relationships to solve multistep ratio and ~~cent~~
	      problems.

14) Benchmark II	Benchmark II encompasses all standards used through chapters 1-6

Unit Enduring Questions: ● How do I solve real-life and mathematical problems using mathematical and algebraic expressions and equations? ● How do I analyze proportional relationships and use them to solve real-world and mathematical problems?	**Unit Enduring Understandings:** ● Solve real-life and mathematical problems using numerical and algebraic expressions and equations ● Analyze proportional relationships and use them to solve real-world and mathematical problems

Unit Objectives:	Unit Objectives:
Students will know….	**Students will be able to…...**
● the difference between greater than and less than	● solve and graph an inequality on a number line
● the meaning of unit rate	● set up and solve a proportion
● how to set up a ratio	● find the slope on a coordinate plane
● how to read a coordinate plane	● understand that direct variation is a proportion and a line that goes through the origin (0) of a coordinate plane
● The definition of "origin" on a coordinate plane	● Order fractions, decimals, and percents on a number line
● The difference between fractions, decimals, and percents	● Change a given decimal to a percent and vice versa
	● Use prior knowledge of proportions to solve for a percent while using the percent proportion
	● Use prior knowledge of equations and expressions to solve for a percent while using the percent equation.
	● Find the percent mark-up, discount, and simple interest

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum **Unit 3 Overview**
Content Area: Math

Unit Title: Unit 3

Target Course/Grade Level: Grade 7

Unit Summary:

In Unit III we will:
- Define and find the measures of adjacent and vertical angles
- Define and find the measures of complementary and supplementary angles
- Categorize triangles
- Find the measures of the angles of a triangle
- Categorize quadrilaterals
- Find the measures of the angles of a quadrilateral
- Define scale factor
- Compose scale drawings
- Find the circumference of a circle
- Understand the difference between radius and diameter
- Find the perimeter of a composite figure using a coordinate plane
- Find the area of a circle
- Find the area of composite figures using a coordinate plane

Interdisciplinary Connections:

Language Arts
Science
Art
History

21st Century Themes, Skills, and Standards:
- CRP.K-12.CRP2 Apply appropriate academic and technical skills.
- CRP.K-12.CRP4 Communicate clearly and effectively and with reason.
- CRP.K-12.CRP11 Use technology to enhance productivity.
- CRP.K-12.CRP8 Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP.K-12.CRP7 Employ valid and reliable research strategies.
- TECH.8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- TECH.8.1.12.F.1 Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

Learning Targets	
CPI #	**Cumulative Progress Indicators (CPI) for Unit 3**

1) Quiz 7.1-7.3	7.G.5. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
	   B. Solve real-life and mathematical problems involving angle measure,
	   area, surface area, and volume.

2) Quiz 7.4-7.5	7.G.A. Draw, construct, and describe geometrical figures and describe the
	 relationships between them
	
	   1. Solve problems involving scale drawings of geometric figures, including
	    computing actual lengths and areas from a scale drawing and
	    reproducing a scale drawing at a different scale.
	
	   2. Draw (with technology, with ruler and protractor, as well as hand)
	    geometric shapes with given conditions. Focus on constructing angles
	    from three measures of angles or sides, noticing when the conditions

	determine a unique triangle, more than one triangle, or no triangle
3) Chapter 7 Vocabulary quiz	

4) Chapter 7 Test	7.G.5. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
	
	   B. Solve real-life and mathematical problems involving angle measure,
	   area, surface area, and volume.
	   7.G.A. Draw, construct, and describe geometrical figures and describe the
	   relationships between them
	
	   1. Solve problems involving scale drawings of geometric figures, including
	   computing actual lengths and areas from a scale drawing and
	   reproducing a scale drawing at a different scale.
	
	   2. Draw (with technology, with ruler and protractor, as well as hand)
	   geometric shapes with given conditions. Focus on constructing angles
	   from three measures of angles or sides, noticing when the conditions
	   determine a unique triangle, more than one triangle, or no triangle

5) Standards Assessment	

6) Quiz 8.1-8.2	7.G.B Solve real-life and mathematical problems involving angle measure,
	area, surface area, and volume.
	   4. Know the formulas for the area and circumference of a circle use
	   them to solve problems; give an informal derivation of the relationship
	   between the circumference and area of a circle.

7) QUiz 8.3-8.4	7.G. 6 Solve real-world and mathematical problems involving area, volume and surface area of two and three-dimensional objects

	posed of triangles, quadrilaterals, polygons, cubes, and right prisms
8) Chapter 8 Vocabulary quiz	

9) Chapter 8 test	7.G.B Solve real-life and mathematical problems involving angle sure,
	area, surface area, and volume.
	   4. Know the formulas for the area and circumference of a circle use
	   them to solve problems; give an informal derivation of the tionship
	   between the circumference and area of a circle.
	
	  7.G. 6 Solve real-world and mathematical problems involving area,
	 volume and surface area of two and three-dimensional objects posed
	of triangles, quadrilaterals, polygons, cubes, and right prisms

10) Benchmark III	Benchmark III encompasses all standards used throughout chapters

Unit Enduring Questions: ● How do I draw, construct, and describe geometrical figures and describe the relationships between them? ● How do I solve real-life and mathematical problems involving angle measure, area, surface area, and volume?	**Unit Enduring Understandings:** ● Draw, construct, and describe geometrical figures and describe the relationships between them ● Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Unit Objectives:	Unit Objectives:
Students will know….	*Students will be able to…...*
● the definition of radius and diameter	● find the circumference and area of a circle
● the construction of angles	● find the radius and/or diameter of a circle when the area and/or circumference is given.
● How to read a protractor	
● the definition of a quadrilateral	● define supplementary and complementary angles
● how to read a coordinate plane	● find the missing angle measure from a supplementary or complementary angle pair.
● That there are many different types of triangles	● Classify quadrilaterals and find the missing angle measures of a given quadrilateral
	● Find the area and perimeter of composite figures using the coordinate plane
	● Categorize triangles by angles and sides
	● Find missing angle of a given triangle

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum Unit 4 Overview

Content Area: Math

Unit Title: Unit 4

Target Course/Grade Level: Grade 7

Unit Summary:
In Unit IV we will:
- Define the formulas of surface area for:
    Prisms
    Pyramids
    Cylinders
- Calculate the surface area for:
    Prisms
    Pyramids
    Cylinders
- Define the formula and calculate the volume of prisms
- Define the formula and calculate the volume of pyramids
- Determine the outcome of an event
- Find the probability of a given event

Interdisciplinary Connections:
Language Arts
Science
Art
History

21st Century Themes, Skills, and Standards:
- CRP.K-12.CRP2 Apply appropriate academic and technical skills.
- CRP.K-12.CRP4 Communicate clearly and effectively and with reason.
- CRP.K-12.CRP11 Use technology to enhance productivity.
- CRP.K-12.CRP8 Utilize critical thinking to make sense of problems and persevere in solving them.
- CRP.K-12.CRP7 Employ valid and reliable research strategies.
- TECH.8.1.12.A.3 Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
- TECH.8.1.12.F.1 Evaluate the strengths and limitations of emerging technologies and their impact on educational, career, personal and or social needs.

CPI #	Cumulative Progress Indicators (CPI) for Unit 4
1) Quiz 9.1-9.2	7.G.B. Solve real-life and mathematical problems involving angle Measure, area, surface area, and volume. 6. Solve real-world and mathematical problems involving area, ume and surface area of two and three-dimensional objects composed of ngles, quadrilaterals, polygons, cubes, and right prisms
2) Quiz 9.4-9.5	7.G.B. Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. 4. Know the formulas for the area and circumference of a circle use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
3) Chapter 9 Vocabulary quiz	
4) Chapter 9 Test	7.G.B. Solve real-life and mathematical problems involving angle

	Measure, area, surface area, and volume.
	6. Solve real-world and mathematical problems involving area,
	ume and
	surface area of two and three-dimensional objects composed of
	gles,
	quadrilaterals, polygons, cubes, and right prisms
	7.G.B. Solve real-life and mathematical problems involving angle
	measure, area, surface area, and volume.
	    4. Know the formulas for the area and circumference of a circle
	
	    use them to solve problems; give an informal derivation of the
	    relationship between the circumference and area of a circle.

5) Standards Assessment	

6) Quiz 10.1-10.5	7.SP.A. Use random sampling to draw inferences about a population.
	    1. Understand that statistics can be used to gain information
	ut a
	    population by examining a sample of the population;
	eralizations
	    about a population from a sample are valid only if the sample is
	    representative of that population. Understand that random
	pling
	    tends to produce representative samples and support valid
	    inferences.
	
	    2. Use data from a random sample to draw inferences about a
	    population with an unknown characteristic of interest. Generate
	    multiple samples (or simulated samples) of the same size to
	ge
	    the variation in estimates or predictions.
	7.SP. B. Draw informal comparative inferences about two
	ulations.
	    3. Informally assess the degree of visual overlap of two
	erical
	    data distributions with similar variabilities, measuring the
	erence

	between the centers by expressing it as a multiple of a measure variability.

7) Quiz 10.6-10.7	8. Find probabilities of compound events using organized lists, es, tree diagrams, and simulation.
	    a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space
	    which the compound event occurs.
	    b. Represent sample spaces for compound events using methods
	    as organized lists, tables and tree diagrams. For an event
	cribed in
	    everyday language (e.g., "rolling double sixes"), identify the
	comes
	    in the sample space which compose the event.
	    c. Design and use a simulation to generate frequencies for
	pound
	    events.
	
	7.SP.2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate tiple
	samples (or simulated samples) of the same size to gauge the ation in
	  estimates or predictions.
	
	B. Draw informal comparative inferences about two populations.
	    3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, suring
	    the difference between the centers by expressing it as a tiple
	    of a measure of variability.
	
	7.SP.4. Use measures of center and measures of variability for erical data from random samples to draw informal comparative rences about two
	populations.

8) Chapter 10 Vocabulary quiz	

9) Chapter 10 test	7.SP.A. Use random sampling to draw inferences about a ulation.
	
	    1. Understand that statistics can be used to gain information ut a
	    population by examining a sample of the population; eralizations
	    about a population from a sample are valid only if the sample is representative of that population. Understand that random pling
	    tends to produce representative samples and support valid inferences.
	
	    2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to ge
	    the variation in estimates or predictions.
	7.SP. B. Draw informal comparative inferences about two ulations.
	    3. Informally assess the degree of visual overlap of two nerical
	    data distributions with similar variabilities, measuring the erence
	    between the centers by expressing it as a multiple of a measure
	
	    variability.
	
	 8. Find probabilities of compound events using organized lists, es, tree diagrams, and simulation.
	    a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space
	    which the compound event occurs.
	    b. Represent sample spaces for compound events using methods n
	    as organized lists, tables and tree diagrams. For an event cribed in

	everyday language (e.g., "rolling double sixes"), identify the comes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for pound events. 7.SP.2. Use data from a random sample to draw inferences about a
10) Final Benchmark (Final Exam)	Final benchmark encompasses all standards used throughout pters 1-10

Unit Enduring Questions:	Unit Enduring Understandings:
● How do I use random sampling to draw inferences about a population? ● How do I draw conclusions about two populations? ● How do i use investigative procedures to develop, use, and evaluate probability models?	● Use random sampling to draw inferences about a population ● Draw informal comparative inferences about two populations ● Investigate chance processes and develop, use, and evaluate probability models
Unit Objectives: *Students will know….* ● Formulas for surface area of given figures ● Formulas for volume of given figures ● How to differentiate between simple and compound events. ● How to differentiate between dependent and independent events. ● How to use population samples to determine the likelihood of a given event.	**Unit Objectives:** *Students will be able to…...* ● Solve for surface area and volume of given figures ● Find the outcomes of simple and compound events ● Determine the dependent and independent events ● Determine the sample and the population of a given event.

Lower Cape May Regional School District (Insert Subject/Content Area) Curriculum Evidence of Learning

Specific Formative Assessments Utilized in Daily Lessons:
- Daily homework quizzes
- Kahoot
- Socrative
- Quizlet
- Quiziz
- Khan Academy

Summative Assessment Utilized throughout Units:
- QBA's
- Pre-course Assessment
  - Benchmark I
  - Benchmark II
  - Benchmark III
  - Final Exam (Benchmark IV)

Modifications for ELL's, Special Education, 504, and Gifted and Talented Students:
Teacher tutoring
Peer tutoring
Cooperative Learning Groups
Modified Assignments
Differentiated Instruction
Response to Intervention (www.help4teachers.com)
Follow all IEP and 504 modifications
   Students deemed gifted or those who may need more challenging work, may complete the elerated text including chapters 11-16

Teacher Notes:
●   As required by the NJ Department of Education, teachers in all content areas will integrate the 21st Century Life and Careers Standards. As the NJDOE indicates, "Providing New Jersey students with the life and career skills needed to function optimally within this dynamic context is a critical focus and organizing principle of K-12 public education. New Jersey has both an obligation to prepare its young people to thrive in this environment, and a vested economic interest in grooming an engaged citizenry made up of productive members of a global workforce that rewards innovation, creativity, and adaptation to change." The links below indicate the CPIs for grade ranges and need to be addressed throughout the units of study:
      Life and Career Standards
●   As indicated in the NJSLS, standards and interdisciplinary connections will be integrated throughout content area curriculum. Links to relevant content standards can be found below:
http://www.corestandards.org/Math/
http://www.state.nj.us/education/cccs/2014/career/9.pdf

Project-based Learning Tasks:
Several will be utilized throughout the curriculum - provided by Big Ideas curriculum, as well as original tasks created by the teacher

Vocabulary:
● In-text vocabulary should be incorporated into every unit. Word journals, vocabulary walls, and/or various other activities should be utilized by the instructor to teach vocabulary.

The Research Process:
● The research process must be integrated within each course curriculum. Student will be provided with opportunities to investigate issues from thematic units of study. As the NJSLS indicate, students will develop proficiency with MLA or APA format as applicable.
● Link Research resources here.

Technology:
● Students must engage in technology applications integrated throughout the curriculum. Applicable technology utilized in this curricula are included below:
  ● Students will use chromebooks daily as per the 1:1 initiative through Lower Cape May Regional School District.
  ● Students will participate in daily discussions as posted on Google Classroom.

Resources:

●   Ancillary resources and materials used to deliver instruction are included below:
Various technology & math websites (examples included below)

Supplemental material created by the teacher as needed

- Khan Academy
- Big Ideas.com
- Brainpop
- Google Classroom
- Youtube

Differentiation Strategies
Differentiation strategies can require varied amounts of preparation time. High-prep strategies often require a teacher to both create multiple pathways to process information/demonstrate learning and to assign students to those pathways. Hence, more ongoing monitoring and assessment is often required. In contrast, low-prep strategies might require a teacher to strategically create process and product choices for students, but students are allowed to choose which option to pursue given their learning profile or readiness level. Also, a low-prep strategy might be focused on a discrete skill (such as vocabulary words), so there are fewer details to consider. Most teachers find that integration of one to two new low-prep strategies and one high-prep strategy each quarter is a reasonable goal.

Low Prep Strategies (add to list as needed)	
Varied journal prompts, spelling or vocabulary lists	Students are given a choice of different journal prompts, spelling lists or vocabulary lists depending on level of proficiency/assessment results.

Anchor activities	Anchor activities provide meaningful options for students when they are not actively engaged in classroom activities (e.g., when they finish early, are waiting for further directions, are stumped, first enter class, or when the teacher is working with other students). Anchors should be directly related to the current learning goals.
Choices of books	Different textbooks or novels (often at different levels) that students are allowed to choose from for content study or for literature circles.
Choices of review activities	Different review or extension activities are made available to students during a specific section of the class (such as at the beginning or end of the period).
Homework options	Students are provided with choices about the assignments they complete as homework. Or, students are directed to specific homework based on student needs.
Student-teacher goal setting	The teacher and student work together to develop individual learning goals for the student.
Flexible grouping	Students might be instructed as a whole group, in small groups of various permutations (homogeneous or heterogeneous by skill or interest), in pairs or individual. Any small groups or pairs change over time based on assessment data.
Varied computer programs	The computer is used as an additional center in the classroom, and students are directed to specific websites or software that allows them to work on skills at their level.
Multiple Intelligence or Learning Style options	Students select activities or are assigned an activity that is designed for learning a specific area of content through their strong intelligence (verbal-linguistic, interpersonal, musical, etc.)

Varying scaffolding of same organizer	Provide graphic organizers that require students to complete various amounts of information. Some will be more filled out (by the teacher) than others.
Think-Pair-Share by readiness, interest, and/or learning profile	Students are placed in predetermined pairs, asked to think about a question for a specific amount of time, then are asked to share their answers first with their partner and then with the whole group.
Mini workshops to re-teach or extend skills	A short, specific lesson with a student or group of students that focuses on one area of interest or reinforcement of a specific skill.
Orbitals	Students conduct independent investigations generally lasting 3-6 weeks. The investigations "orbit" or revolve around some facet of the curriculum.
Games to practice mastery of information and skill	Use games as a way to review and reinforce concepts. Include questions and tasks that are on a variety of cognitive levels.
Multiple levels of questions	Teachers vary the sorts of questions posed to different students based on their ability to handle them. Varying questions is an excellent way to build the confidence (and motivation) of students who are reluctant to contribute to class discourse. Note: Most teachers would probably admit that without even thinking about it they tend to address particular types of questions to particular students. In some cases, such tendencies may need to be corrected. (For example, a teacher may be unknowingly addressing all of the more challenging questions to one student, thereby inhibiting other students' learning and fostering class resentment of that student.)
High Prep Strategies (add to list as needed)	

Cubing	Designed to help students think about a topic or idea from many different angles or perspectives. The tasks are placed on the six sides of a cube and use commands that help support thinking (justify, describe, evaluate, connect, etc.). The students complete the task on the side that ends face up, either independently or in homogenous groups.
Tiered assignment/ product	The content and objective are the same, but the process and/or the products that students must create to demonstrate mastery are varied according to the students' readiness level.
Independent studies	Students choose a topic of interest that they are curious about and wants to discover new information on. Research is done from questions developed by the student and/or teacher. The researcher produces a product to share learning with classmates.
4MAT	Teachers plan instruction for each of four learning preferences over the course of several days on a given topic. Some lessons focus on mastery, some on understanding, some on personal involvement, and some on synthesis. Each learner has a chance to approach the topic through preferred modes and to strengthen weaker areas
Jigsaw	Students are grouped based on their reading proficiency and each group is given an appropriate text on a specific aspect of a topic (the economic, political and social impact of the Civil War, for example). Students later get into heterogeneous groups to share their findings with their peers, who have read about different areas of study from source texts on their own reading levels. The jigsaw technique allows you to tackle the same subject with all of your students while discreetly providing them the different tools they need to get there.
Multiple texts	The teacher obtains or creates a variety of texts at different reading levels to assign strategically to students.

Alternative assessments	After completing a learning experience via the same content or process, the student may have a choice of products to show what has been learned. This differentiation creates possibilities for students who excel in different modalities over others (verbal versus visual).
Modified Assessments	Assessments can be modified in a variety of ways – for example by formatting the document differently (e.g. more space between questions) or by using different types of questions (matching vs. open ended) or by asking only the truly essential questions.
Learning contracts or Personal Agendas	A contract is a negotiated agreement between teacher and student that may have a mix of requirements and choice based on skills and understandings considered important by the teacher. A personal agenda could be quite similar, as it would list the tasks the teacher wants each student to accomplish in a given day/lesson/unit. Both Learning contracts and personal agendas will likely vary between students within a classroom.
Compacting	This strategy begins with a student assessment to determine level of knowledge or skill already attained (i.e. pretest). Students who demonstrate proficiency before the unit even begins are given the opportunity to work at a higher level (either independently or in a group).
Literature circles	Flexible grouping of students who engage in different studies of a piece of literature. Groups can be heterogeneous and homogeneous.
Learning Centers	A station (or simply a collection of materials) that students might use independently to explore topics or practice skills. Centers allow individual or groups of students to work at their own pace. Students are constantly reassessed to determine which centers are appropriate for students at a particular time, and to plan activities at those centers to build the most pressing skills.

Tic-Tac-Toe Choice Board (sometimes called "Think-Tac-Toe"	The tic-tac-toe choice board is a strategy that enables students to choose multiple tasks to practice a skill, or demonstrate and extend understanding of a process or concept. From the board, students choose (or teacher assigns) three adjacent or diagonal. To design a tic-tac-toe board: - Identify the outcomes and instructional focus - Design 9 different tasks - Use assessment data to determine student levels - Arrange the tasks on a tic-tac-toe board either randomly, in rows according to level of difficulty, or you may want to select one critical task to place in the center of the board for all students to complete.

Curriculum development Resources/Instructional Materials:

List or Link Ancillary Resources and Curriculum Materials Here:
● www.bigideasmath.com
● www.kahut.com
● www.brainpop.com
● www.khanacademy.com

Board of Education Approved Text(s)

● Big Ideas Red Book