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**

Lower Cape May Regional School District

Mathematics

7th Grade

Interdisciplinary Connections
LA.7.W.1 - Write arguments to support claims with clear reasons and relevant evidence.

Integration of Technology
9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4). 9.4.8.TL.3: Select appropriate tools to organize and present information digitally. 9.4.8.TL.4: Synthesize and publish information about a local or global issue or event (e.g., MSLS4-5, 6.1.8.CivicsPI.3). 9.4.8.TL.5: Compare the process and effectiveness of synchronous collaboration and asynchronous collaboration. • 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

21st Century Skills

9.4.8.CI.1: Assess data gathered on varying perspectives on causes of climate change (e.g., cross cultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4).

9.4.8.CI.2: Repurpose an existing resource in an innovative way (e.g., 8.2.8.NT.3).

9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).

9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries.

9.4.8.CT.1: Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective (e.g., MS-ETS1-2).

9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).

9.4.8.CT.3: Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.

9.4.8.DC.1: Analyze the resource citations in online materials for proper use.

9.4.8.DC.2: Provide appropriate citation and attribution elements when creating media products (e.g., W.6.8).

9.4.8.DC.3: Describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure.

9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.

9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure. •

9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation.

9.4.8.DC.7: Collaborate within a digital community to create a digital artifact using strategies such as crowdsourcing or digital surveys.

9.4.8.DC.8: Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities).

9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a). • 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.

9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information.

9.4.8.IML.2: Identify specific examples of distortion, exaggeration, or misrepresentation of information.

9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b).

9.4.8.IML.4: Ask insightful questions to organize different types of data and create meaningful visualizations. • 9.4.8.IML.5: Analyze and interpret local or public data sets to summarize and effectively communicate the data.

9.4.8.IML.6: Identify subtle and overt messages based on the method of communication.

9.4.8.IML.7: Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).

9.4.8.IML.8: Apply deliberate and thoughtful search strategies to access high-quality information on climate change (e.g., 1.1.8.C1b).

9.4.8.IML.9: Distinguish between ethical and unethical uses of information and media (e.g., 1.5.8.CR3b, 8.2.8.EC.2).

9.4.8.IML.10: Examine the consequences of the uses of media (e.g., RI.8.7).

9.4.8.IML.11: Predict the personal and community impact of online and social media activities.

9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.

9.4.8.IML.13: Identify the impact of the creator on the content, production, and delivery of information (e.g., 8.2.8.ED.1).

9.4.8.IML.14: Analyze the role of media in delivering cultural, political, and other societal messages. • 9.4.8.IML.15: Explain ways that individuals may experience the same media message differently.

Career Education

9.2.8.CAP.1: Identify offerings such as high school and county career and technical school courses, apprenticeships, military programs, and dual enrollment courses that support career or occupational areas of interest.

9.2.8.CAP.2: Develop a plan that includes information about career areas of interest.

9.2.8.CAP.3: Explain how career choices, educational choices, skills, economic conditions, and personal behavior affect income.

9.2.8.CAP.4: Explain how an individual's online behavior (e.g., social networking, photo exchanges, video postings) may impact opportunities for employment or advancement.

9.2.8.CAP.5: Develop a personal plan with the assistance of an adult mentor that includes information about career areas of interest, goals and an educational plan.

9.2.8.CAP.6: Compare the costs of postsecondary education with the potential increase in income from a career of choice.

9.2.8.CAP.7: Devise a strategy to minimize costs of postsecondary education.

9.2.8.CAP.8: Compare education and training requirements, income potential, and primary duties of at least two jobs of interest.

9.2.8.CAP.9: Analyze how a variety of activities related to career preparation (e.g., volunteering, apprenticeships, structured learning experiences, dual enrollment, job search, scholarships) impacts postsecondary options.

9.2.8.CAP.10: Evaluate how careers have evolved regionally, nationally, and globally.

9.2.8.CAP.11: Analyze potential career opportunities by considering different types of resources, including occupation databases, and state and national labor market statistics.

9.2.8.CAP.12: Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.

9.2.8.CAP.13: Compare employee benefits when evaluating employment interests and explain the possible impact on personal finances.

9.2.8.CAP.14: Evaluate sources of income and alternative resources to accurately compare employment options.

9.2.8.CAP.15: Present how the demand for certain skills, the job market, and credentials can determine an individual's earning power.

9.2.8.CAP.16: Research different ways workers/ employees improve their earning power through education and the acquisition of new knowledge and skills.

9.2.8.CAP.17: Prepare a sample resume and cover letter as part of an application process.

9.2.8.CAP.18: Explain how personal behavior, appearance, attitudes, and other choices may impact the job application process.

9.2.8.CAP.19: Relate academic achievement, as represented by high school diplomas, college degrees, and industry credentials, to employability and to potential level

9.2.8.CAP.20: Identify the items to consider when estimating the cost of funding a business.

Lower Cape May Regional School District 7th Grade Math 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. (41 days)**
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** ● **Comparing and ordering fractions, decimals, & percents** ● **The percent proportion** ● **The percent equation** ● **Percents of increase and decrease**	**Dates for Units:** **Nov. to Late January (45 days)**

• **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 (42 days)**
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 (45 days)**
Date Revised: 11/06/19	**Board Approved On: 11/21/19**
Lower Cape May Regional School District 7th Grade Math 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
- Explain the purpose of the payroll deductions, taxable income, and employee benefits
- Construct a budget to save for long term, short term, and charitable goals.

Financial Literacy Standards

9.1.8.FP.1: Describe the impact of personal values on various financial scenarios.
9.1.8.FP.2: Evaluate the role of emotions, attitudes, and behavior (rational and irrational) in making financial decisions.
9.1.8.FP.3: Explain how self-regulation is important to managing money (e.g., delayed gratification, impulse buying, peer pressure, etc.).
9.1.8.FP.4: Analyze how familial and cultural values influence savings rates, spending, and other financial decisions.
9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being
9.1.8.FP.6: Compare and contrast advertising messages to understand what they are trying to accomplish.
9.1.8.FP.7: Identify the techniques and effects of deceptive advertising.
9.1.8.FI.1: Identify the factors to consider when selecting various financial service providers.
9.1.8.FI.2: Determine the most appropriate use of various financial products and services to borrow and access money for making purchases (e.g., ATM, debit cards, credit cards, check books, online/mobile banking).
9.1.8.FI.3: Evaluate the most appropriate financial institutions to assist with meeting various personal financial needs and goals.
9.1.8.FI.4: Analyze the interest rates and fees associated with financial products

Learning Targets

CPI #	Cumulative Progress Indicators (CPI) for Unit 1
1) Pre-course test	
2) Quiz 1.1-1.3	nnn7.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 multiplication 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 multiplication 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. 9.1.8.A.7 Explain payroll deduction, taxable income, and employee benefits.
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 multiplication 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. 9.1.8.B.2 Construct simple personal savings and spending plan based on va various sources of income.
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. 9.1.8.B.2 Construct simple personal savings and spending plan based on various sources of income. 9.1.8.A.7 Explain payroll deduction, taxable income, and employee benefits.
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. 9.1.8.B.2 Construct simple personal savings and spending plan based onvarious sources of income. 9.1.8.A.7 Explain payroll deduction, taxable income, and employee benefits.
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 with accuracy and efficiency. 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. 9.1.8.B.8 Develop a system for keeping and using financial records
14) Chapter 3 Vocabulary quiz	9.1.8.B.2 Construct simple personal savings and spending plan based on va various sources of income. 9.1.8.A.7 Explain payroll deduction, taxable income, and employee benefits.
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 chapters 1-3

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

Lower Cape May Regional School District 7th Grade Math 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 planeSCI.7-8.8.2.8.E.1
- 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
- Explain how income affects spending decisions.
- Calculate cost of borrowing various amounts of money using different types of credit.

Financial Literacy Standards

9.1.8.CDM.1: Compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.

9.1.8.CDM.2: Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit cards, installment loans, mortgages, lines of credit) and compare and calculate the interest rates associated with each.

9.1.8.CDM.3: Compare and contrast loan management strategies, including interest charges and total principal repayment costs.

9.1.8.CDM.4: Evaluate the application process for different types of loans (e.g., credit card, mortgage, student loans).

9.1.8.CP.1: Compare prices for the same goods or services.

9.1.8.CP.2: Analyze how spending habits affect one's ability to save.

9.1.8.CP.3: Explain the purpose of a credit score and credit record, the factors and impact of credit scores.

9.1.8.CP.4: Summarize borrower's credit report rights

9.1.8.CP.5: Compare the financial products and services available to borrowers relative to their credit worthiness.

9.1.8.RM.1: Determine criteria for deciding the amount of insurance protection needed. •
9.1.8.RM.2: Analyze the need for and value of different types of insurance and the impact of deductibles in protecting assets against loss.
9.1.8.RM.3: Evaluate the need for different types of warranties.
9.1.8.RM.4: Explain the purpose of insurance products and the reasons for property product and liability insurance protection.

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. Graph 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. Graph 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. Graph 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. Graph 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, including Ratio of lengths, areas and other quantities measured in like or different 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 graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, 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 relationship means in terms of the situation, with special attention to the points (0, 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, including Ratio of lengths, areas and other quantities measured in like or different 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 graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, 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 relationship means in terms of the situation, with special attention to the points (0, 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 and algebraic expressions and equations. 3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between 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 percent 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 percent problems.
12) Chapter 6 Vocabulary quiz	
13) Chapter 6 Test	7.EE.B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. 3. Solve multi-step real-life and mathematical problems posed with

	positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between 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 percent problems.
14) Benchmark II	Benchmark II encompasses all standards used through chapters 1-6

Unit Enduring Questions:	**Unit Enduring Understandings:**
● 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?	● 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: ***Students will know….*** ● the difference between greater than and less than ● the meaning of unit rate ● how to set up a ratio ● how to read a coordinate plane ● The definition of "origin" on a coordinate plane ● The difference between fractions, decimals, and percents	**Unit Objectives:** ***Students will be able to…...*** ● solve and graph an inequality on a number line ● set up and solve a proportion ● find the slope on a coordinate plane ● understand that direct variation is a proportion and a line that goes through the origin (0) of a coordinate plane ● Order fractions, decimals, and percents on a number line ● 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 7th Grade Math 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

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 freehand) geometric shapes with given conditions. Focus on constructing triangles 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 freehand) geometric shapes with given conditions. Focus on constructing triangles 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 and 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 composed 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 measure, area, surface area, and volume. 4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship 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 composed of triangles, quadrilaterals, polygons, cubes, and right prisms
10) Benchmark III	Benchmark III encompasses all standards used throughout chapters 1-8

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: ***Students will know….*** ● the definition of radius and diameter ● the construction of angles ● How to read a protractor ● the definition of a quadrilateral ● how to read a coordinate plane ● That there are many different types of triangles ●	**Unit Objectives:** ***Students will be able to…...*** ● find the circumference and area of a circle ● find the radius and/or diameter of a circle when the area and/or circumference is given. ● define supplementary and complementary angles ● find the missing angle measure from a supplementary or complementary angle pair. ● 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 7th Grade Math 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

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, volume and surface area of two and three-dimensional objects composed of triangles, 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 and 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, volume and surface area of two and three-dimensional objects composed of triangles, 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 and 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 about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the

	sample is representative of that population. Understand that random sampling 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 gauge the variation in estimates or predictions. 7.SP. B. Draw informal comparative inferences about two populations. 3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability.
7) Quiz 10.6-10.7	8. Find probabilities of compound events using organized lists, tables, 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 for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. 7.SP.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 gauge the variation 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, measuring the difference between the centers by expressing it as a multiple of a measure of variability.

	7.SP.4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
8) Chapter 10 Vocabulary quiz	
9) Chapter 10 test	7.SP.A. Use random sampling to draw inferences about a population. 1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling 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 gauge the variation in estimates or predictions. 7.SP. B. Draw informal comparative inferences about two populations. 3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. 8. Find probabilities of compound events using organized lists, tables, 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 for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in veryday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound 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 chapters 1-10

Unit Enduring Questions: ● 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?	**Unit Enduring Understandings:** ● 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 7th Grade Math 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 Assessments

- Benchmark I
- Benchmark II
- Benchmark III
- Final Exam (Benchmark IV)

Alternative Assessments

- Allow students to explain content orally
- Allow students the opportunity to show learning through Project Based Learning

Modifications:

ELLs

Teacher tutoring

Peer tutoring

Cooperative Learning Groups

Special Education

Modified Assignments

Modified texts

Differentiated Instruction

Response to Intervention (www.help4teachers.com)

504

Follow all IEP and 504 modifications

Adaptive Technology

Gifted and Talented

Modified assignments/Modified texts

- Students deemed gifted or those who may need more challenging work, may complete the accelerated text including chapters 11-16

Students At Risk for Failure

Parent Communication Log
Allow shorter exams and more time
Allow for re-tests

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. Students 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.

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:

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

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