

East Newark Public School
Mathematics Curriculum
Grade 7



Equity Statement:

East Newark Public School District does not discriminate on the basis of race, color, creed, religion, sex, ancestry, or national origin. The East Newark Board of Education ensures that all students enrolled in the schools of this district shall be afforded equal educational opportunities in strict accordance with the law. No student shall be denied access to or benefit from any educational program or activity on the basis of the student's race, color, creed, religion, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, gender identity or expression, socioeconomic status, or disability. The Board directs the Superintendent to allocate faculty, administrators, support staff members, curriculum materials, and instructional equipment supplies among classes of this district in a manner that ensures equivalency of educational opportunity throughout this district. The school district's curricula will eliminate discrimination, promote mutual acceptance and respect among students, and enable students to interact effectively with others, regardless of race, color, creed, religion, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, gender identity or expression, socioeconomic status, or disability.

Course Description:

Grade 7 Mathematics is designed to (1) develop understanding and application of proportional relationships; (2) strengthen understanding of operations with rational numbers and linear equations; (3) introduce problems involving scale drawings, informal geometric constructions, and two- and three-dimensional shapes; and (4) the use of statistical inferences about populations based on samples.

Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Course Modifications:

The course instructor will determine, with the assistance of administrators, teacher assistants/aides, educational specialists, and/or special education teachers, what modifications will be made for his/her students. Such examples of modifications can include, but not be limited to:

- Extended time as needed
- Modification of tests and quizzes
- Preferential seating
- Alternative/Formative assessment (projects)
- Effective teacher questioning (ranging from simple recall to higher order critical thinking questions)
- Supplemental materials
- Cooperative learning
- Teacher tutoring
- Peer tutoring
- Differentiated Instruction

Grade 7 Pacing Guide:

UNIT		STANDARDS	PACING
Unit 1			
1A	Proportional Reasoning	7.RP.A.1; 7.RP.A.2; 7.RP.A.3	18 days
1B	Scale Drawings and Circles	7.G.A.1; 7.G.A.4	12 days
1C	Probability	7.SP.C.5; 7.SP.C.6; 7.SP.C.7; 7.SP.C.8	12 days
Unit 2			
2A	Operations with Rational Numbers	7.NS.A.1; 7.NS.A.2; 7.NS.A.3	19 days
2B	Area and Volume	7.G.A.3; 7.G.B.6	12 days
2C	Data Analysis	7.SP.A.1; 7.SP.A.2; 7.SP.B.3; 7.SP.B.4	9 days
Unit 3			
3A	Expressions, Equations, and Inequalities	7.EE.A.1; 7.EE.B.3; 7.EE.B.4	15 days
3B	Angle Relationships and Triangles	7.G.A.2; 7.G.A.5	13 days
3C	Applications of Percent	7.RP.A.3; 7.EE.A.2	14 days
Unit 4			
4A	Right Triangle Trigonometry	7.G.A.1; 7.G.A.5; 8.G.B.7	15 days
4B	Surface Area and Volume of Cones and Cylinders	7.G.B.6; 8.G.C.9	8 days
4C	Reflection of the Year	7.G.B.6; 7.RP.A.2; 7.RP.A.3; 7.EE.B.4; 7.NS.A.3; 7.SP.B.4	17 days

Marking Period	Unit Title	Recommended Instructional Days
1-2	Unit 1	42 days
Domain:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSL-S-CLKS within Unit
Strand:	Progress Indicator:	Essential Question/s:
Ratios and Proportional Relationships	<ul style="list-style-type: none"> • 7.RP.A.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour. • 7.RP.A.2: Recognize and represent proportional relationships between quantities. <ul style="list-style-type: none"> 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. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t = pn$. 	<ol style="list-style-type: none"> 1. How can proportional relationships be represented verbally, numerically, graphically, and algebraically? 2. How can the constant of proportionality be identified in verbal, numerical, graphical, and algebraic relationships? 3. How can proportional relationships be used to solve real-world problems? 4. Where are proportional relationships observed in nature? 5. How is the concept of proportionality used to create scale drawings? 6. How can it be determined whether there is a proportional relationship between the radius of a circle and its circumference is proportional? 7. How can it be determined whether there is a proportional relationship between the radius of a circle and its area is proportional? 8. How do the theoretical probabilities and experiential probabilities of a simple or compound event compare? 9. How can organized lists, tables, and tree diagrams be used to find theoretical probabilities? 10. How can proportional reasoning be used with probabilities to approximate relative frequencies of simple or compound events? 11. How can simulations be used to approximate the probability of real-world events that are otherwise difficult to determine? <p>Activity Description:</p> <ul style="list-style-type: none"> • <i>Are You Ready?</i> activities (Into Math)

	<p>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.</p> <ul style="list-style-type: none"> • 7.RP.A.3: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. 	<ul style="list-style-type: none"> • Lesson Review (Into Math) • Assessment Forms (Into Math) • Construct bar models to represent two quantities that are in a proportional relationship. • Use bar models to determine the unit rates for two quantities that are in a proportional relationship. • Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. • Describe the relationship between rates in which the quantities are inverted, e.g. “minutes per mile” and “miles per minute.” • Determine whether two quantities are in a proportional relation by testing for equivalent ratios in a table. • Determine whether two quantities are in a proportional relationship by observing whether the graph is a straight line through the origin. • Identify the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions. • Represent proportional relationships with equations in the form $y=kx$. • 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.
<p style="text-align: center;">Geometry</p>	<ul style="list-style-type: none"> • 7.G.A.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. • 7.G.B.4: Know the formulas for the area and circumference of a circle and use them to solve problems. Give an information derivation of the relationship between the circumference and area of a circle. 	<ul style="list-style-type: none"> • Use unit rates to solve multi-step proportionality problems. • Use proportions to solve multi-step proportionality problems. • Create scale drawings. • Determine the scale of a drawing given the measurement on the scale drawing and the actual measurement. • Compute actual lengths and area from a scale drawing. • Reproduce a scale drawing at a different scale. S5. Derive the formula for circumference of a circle. • Apply the formulas $C = \pi r^2$ and $C = \pi d$, where r is the radius, d is the diameter, and C is the circumference, to solve real-world problems. • Derive the formula for area of circle • Apply the formula $A = \pi r^2$, where r is the radius and A is area, to solve real-world problems, including problems involving an annulus. • Give an informal derivation of the relationship between the circumference and area of a circle. • Describe qualitatively the probability of an event occurring. • Determine the sample space for a simple or compound event. • Find the experimental probability of a simple event or compound event.
<p style="text-align: center;">Statistics and Probability</p>	<ul style="list-style-type: none"> • 7.SP.C.5: Understand the probability of a chance event is the number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $1/2$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. • 7.SP.C.6: Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. • 7.SP.C.7: Develop a probability model by assigning equal probability to all outcomes, and use the model to 	<ul style="list-style-type: none"> • Use unit rates to solve multi-step proportionality problems. • Use proportions to solve multi-step proportionality problems. • Create scale drawings. • Determine the scale of a drawing given the measurement on the scale drawing and the actual measurement. • Compute actual lengths and area from a scale drawing. • Reproduce a scale drawing at a different scale. S5. Derive the formula for circumference of a circle. • Apply the formulas $C = \pi r^2$ and $C = \pi d$, where r is the radius, d is the diameter, and C is the circumference, to solve real-world problems. • Derive the formula for area of circle • Apply the formula $A = \pi r^2$, where r is the radius and A is area, to solve real-world problems, including problems involving an annulus. • Give an informal derivation of the relationship between the circumference and area of a circle. • Describe qualitatively the probability of an event occurring. • Determine the sample space for a simple or compound event. • Find the experimental probability of a simple event or compound event.

determine probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that June will be selected and the probability a girl will be selected.

b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that spinning a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?

- **7.SP.C.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. For example, use random

- Conduct experiments to infer probabilities and rank outcomes by likelihood.
- Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency.
- Explain how experimental probabilities change with larger sample sizes.
- Use proportional reasoning and experimental probability to approximate the relative frequency of a simple or compound event.
- Find the theoretical probability of simple events and compound events.
- Compare theoretical probability to experimental probability.
- Use a table, a tree diagram, or an organized list to find theoretical probabilities of compound events.
- Use proportional reasoning and theoretical probability to approximate the relative frequency of a simple or compound event.
- Design and perform a simulation to test the probability of a simple or compound event.

Interdisciplinary Connections: Content: ;NJSLS#:

Science -

- MS-LS1-4 - Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.
- MS-LS3-2 - Develop and use a model to describe wh asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.
- MS-LS4-6 - Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.
- MS-PS1-1 - Develop models to describe the atomic composition of simple molecules and extended structure.
- MS-PS3-1 - Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.
- MS-PS4-1 - Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

	<p>digits as a simulation tool to approximate the answer to the questions: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?</p>	<ul style="list-style-type: none"> MS-ESS2-3 - Analyze and interpret data to determine the properties of objects in the solar system. MS-ESS3-1 - Construct a scientific explanation based on evidence for how the uneven distribution of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
<p>Mathematics Practices</p>		<p>Technology -</p> <ul style="list-style-type: none"> 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.
<ul style="list-style-type: none"> Make sense of problems and persevere in solving them. Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others. Model with mathematics. Use appropriate tools strategically. Attend to precision. Look for and make use of structure. Look for and express regularity in repeated reasoning. 		
<p>Social and Emotional Learning: <i>Competencies</i></p>	<p>Social and Emotional Learning: <i>Sub-Competencies</i></p>	
<ul style="list-style-type: none"> Self-Awareness Self-Management Responsible Decision Making Social Awareness Relationship Skills Motivation 	<ul style="list-style-type: none"> Emotional Awareness Internal Regulation Behavior Control Goal Pursuance Appreciating Social and Environment Diversity Adaptive Behavior Communication Social Engagement Constructive Thinking Consequence Evaluation Respect for Self and Others Enthusiasm Initiative Resilience 	
<p>Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>		<p>Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>
<p>Formative Assessments:</p> <ul style="list-style-type: none"> Check for Understanding Questions 		<p>Benchmarks:</p> <ul style="list-style-type: none"> Module Assessment

<ul style="list-style-type: none"> • Quizzes • Class activities/participation • Exit tickets 	<ul style="list-style-type: none"> • iReady scores <p>Summative Assessments:</p> <ul style="list-style-type: none"> • Module Test • Unit Assessment 		
Differentiated Student Access to Content: Teaching and Learning <i>Resources/Materials</i>			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources
<ul style="list-style-type: none"> • <i>Into Math</i> Textbook, Modules 1-2, 12, 14-15 • Student Activity Cards • Teacher Activity Cards • Numeral Cards • Dot Cards • White Boards • Connecting Cubes • Number Cubes • Visual Representations of Numbers and Number of Objects • Counters 	<ul style="list-style-type: none"> • Modified excerpts from <i>Into Math</i> Textbook, Modules 1-2, 12, 14-15 • Extra Practice pages • Anchor charts • Scaffolded explanations of topics • Manipulatives • Visual aids • Hands-on learning activities 	<ul style="list-style-type: none"> • <i>Into Math</i> Textbook, Modules 1-2, 12, 14-15 (translated resources) • Visual aids • Manipulatives • Vocabulary with images and examples • Hands-on learning activities • Extra Practice pages • Anchor charts 	<ul style="list-style-type: none"> • <i>Into Math</i> Textbook, Modules 1-2, 12, 14-15 • Student Activity Cards • Teacher Activity Cards • Numeral Cards • Dot Cards • White Boards • Connecting Cubes • Number Cubes • Visual Representations of Numbers and Number of Objects • Counters
Supplemental Resources			
<p>Technology:</p> <ul style="list-style-type: none"> • SmartBoards • Chromebooks • IXL • Teacher Online Resources • Applicable educational videos • Illustrative Mathematics • Kahoot • PhET • Desmos • National Council of Teachers of Mathematics • Transum 			
Differentiated Student Access to Content: Recommended <i>Strategies & Techniques</i>			

Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> • Small group instruction • Peer tutoring • Modeling • Visual demonstrations • Encourage creative expression and thinking 	<ul style="list-style-type: none"> • Provide additional manipulatives to support instruction • Allow for alternative strategies to solve algorithms or tasks • Provide the steps needed to complete the task • Model frequently • Use visuals to demonstrate/model the processes • Extra time for work • Modified assignments • Small group work for more individualize attention 	<ul style="list-style-type: none"> • Use of translate materials and simplified language • Provide additional manipulatives to support instruction • Allow for alternative strategies to solve algorithms or tasks • Provide the steps needed to complete the task • Model frequently • Use visuals to demonstrate/model the processes • Extra time for work • Modified assignments • Small group work for more individualize attention 	<ul style="list-style-type: none"> • Enrichment book • Higher-level questions • Leading group work

NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept:	
	Core Ideas:	An individual's strengths, lifestyle goals, choices, and interests affect employment and income.
	Performance Expectation/s:	<ul style="list-style-type: none"> • 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.
	Career Readiness, Life Literacies, & Key Skills Practices	
	<ul style="list-style-type: none"> • Act as a responsible and contributing community members and employee. • Attend to financial well-being. • Demonstrate creativity and innovation. • Utilize critical thinking to make sense of problems and persevere in solving them. • Model integrity, ethical leadership and effective management • Plan education and career paths aligned to personal goals. • Use technology to enhance productivity increase collaboration and communicate effectively. • Work productively in teams while using cultural/global competence. 	

Marking Period	Unit Title	Recommended Instructional Days
2-3	Unit 2	40 days
Domain:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSL-CLKS within Unit
Strand:	Progress Indicator:	Essential Question/s:
The Number System	<ul style="list-style-type: none"> ● 7.NS.A.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. <ul style="list-style-type: none"> a. Describe situations in which opposite quantities combine to make 0. For example, in the first round of a game, Maria scored 20 points. In the second round of the same game, she lost 20 points. What is her score at the end of the second round? 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. 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. d. Apply properties of operations as strategies to add and subtract rational numbers. ● 7.NS.A.2: Apply and extend previous understandings of multiplication and 	<ol style="list-style-type: none"> 1. What is the relationship between fractions and decimals? 2. How can area, surface area, and volume be used to solve real-world problems? 3. How can data be organized, displayed, and summarized to understand trends? 4. How can data from a sample be used to draw conclusions about and make decisions for a population? <p>Activity Description:</p> <ul style="list-style-type: none"> ● <i>Are You Ready?</i> activities (Into Math) ● Lesson Review (Into Math) ● Assessment Forms (Into Math) ● Describe situations in which opposite quantities combine to make zero. ● Show that a number and its opposite have a sum of zero. ● Use a number line to add and subtract positive and negative integers, fractions, and decimals. ● Show that the distance between two rational numbers on a number line is the absolute value of their difference. ● Calculate the sum of positive and negative integers, fractions, and decimals without a number line. ● Calculate the differences of positive and negative integers, fractions, and decimals without a number line. ● Apply properties of operations as strategies to add and subtract rational numbers. ● Solve mathematical and real-world problems requiring addition and subtraction of rational numbers.

	<p>division and of fractions to multiply and divide rational numbers.</p> <p>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.</p> <p>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.</p> <p>c. Apply properties of operations as strategies to multiply and divide rational numbers.</p> <p>d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.</p> <ul style="list-style-type: none"> ● 7.NS.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers. 	<ul style="list-style-type: none"> ● Develop and use rules for multiplying and dividing positive and negative numbers. ● Recognize patterns in multiplying positive and negative numbers. ● Express quotients in different forms. ● Apply the properties of operations as strategies to multiply and divide rational numbers. ● Solve mathematical and real-world problems requiring multiplication and division of rational numbers. ● Interpret the sums, differences, products, and quotients of rational numbers by describing them in context. ● Assess the reasonableness of sums, differences, products, and quotients. ● Convert among forms of rational numbers as needed when solving problems. ● Solve multi-step problems requiring a combination of rational number operations. ● Convert a fraction to a decimal using long division. ● Identify and describe the two-dimensional figures resulting from cross sections of a prism, pyramid, cylinder, or cone, both parallel to and perpendicular to its base. ● Identify the dimensions of the two-dimensional figures resulting from cross sections of a prism, pyramid, cylinder, or cone, both parallel to and perpendicular to its base. ● Compute the area of the two-dimensional figures resulting from cross sections of a prism, pyramid, cylinder, or cone, both parallel to and perpendicular to its base. ● Solve real-world and mathematical problems using known formulas to calculate the areas of composite figures. ● Compute the surface area of a solid composed of cubes. ● Construct the net of a prism, pyramid, cylinder, or cone. ● Compute the surface area of a prism, pyramid, cylinder, or cone. ● Use a net to derive the formula for surface area of a rectangular prism. ● Compute the volume of a prism or pyramid using a formula. ● Derive the formula for the volume of a rectangular prism. ● Compute the volumes of composite solids composed of prisms and pyramids. ● Appropriately use units. ● Determine whether a real-world problem involves area, surface area, or volume. ● Solve real-world and mathematical problems involving area, surface area, and volume.
<p style="text-align: center;">Geometry</p>	<ul style="list-style-type: none"> ● 7.G.A.3: Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. ● 7.G.B.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. 	
<p style="text-align: center;">Statistics and Probability</p>	<ul style="list-style-type: none"> ● 7.SP.A.1: Understand that statistics can be used to gain information about a population by examining a sample of the 	

	<p>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.</p> <ul style="list-style-type: none"> ● 7.SP.A.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. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be. ● 7.SP.B.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. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable. ● 7.SP.B.4: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book. 	<ul style="list-style-type: none"> ● Identify the population, parameter, sample, and statistic in a real-world situation. ● Describe whether a sample is representative of a population. ● Generate a random sample. ● Use data from a random sample to describe inferences with an unknown characteristic of interest. ● Use proportional reasoning to make predictions about a population based on a sample statistic. ● Generate multiple samples of the same size to gauge variation in estimates or predictions. ● Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities. ● Measure the distance between the centers of two numerical data distributions by expressing it as a multiple of a measure of variability. ● Use measures of center--mean, median, and mode--to draw informal comparative inferences about two populations. ● Use measures of variability--range, interquartile range, and mean absolute deviation--to draw informal comparative inferences about two populations. <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <p>Science -</p> <ul style="list-style-type: none"> ● MS-PS1-6 - Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes. ● MS-PS2-1 - Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects. ● MS-PS2-2 - Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object. ● MS-ESS2-5 - Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions. ● MS-LS4-6 - Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. ● MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
Mathematics Practices		
<ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Reason abstractly and quantitatively. 		

<ul style="list-style-type: none"> • Construct viable arguments and critique the reasoning of others. • Model with mathematics. • Use appropriate tools strategically. • Attend to precision. • Look for and make use of structure. • Look for and express regularity in repeated reasoning. 		Technology - <ul style="list-style-type: none"> • 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose. 	
Social and Emotional Learning: <i>Competencies</i>		Social and Emotional Learning: <i>Sub-Competencies</i>	
<ul style="list-style-type: none"> • Self-Awareness • Self-Management • Responsible Decision Making • Social Awareness • Relationship Skills • Motivation 		<ul style="list-style-type: none"> • Emotional Awareness • Internal Regulation • Behavior Control • Goal Pursuance • Appreciating Social and Environment Diversity • Adaptive Behavior • Communication • Social Engagement • Constructive Thinking • Consequence Evaluation • Respect for Self and Others • Enthusiasm • Initiative • Resilience 	
Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i>		Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i>	
Formative Assessments: <ul style="list-style-type: none"> • Check for Understanding Questions • Quizzes • Class activities/participation • Exit tickets 		Benchmarks: <ul style="list-style-type: none"> • Module Assessment • iReady scores Summative Assessments: <ul style="list-style-type: none"> • Module Test • Unit Assessment 	
Differentiated Student Access to Content: Teaching and Learning Resources/Materials			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources

<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 3-6, 10-11, 13 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters 	<ul style="list-style-type: none"> ● Modified excerpts from <i>Into Math</i> Textbook, Modules 3-6, 10-11, 13 ● Extra Practice pages ● Anchor charts ● Scaffolded explanations of topics ● Manipulatives ● Visual aids ● Hands-on learning activities 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 3-6, 10-11, 13 ● Visual aids ● Manipulatives ● Vocabulary with images and examples ● Hands-on learning activities ● Extra Practice pages ● Anchor charts 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 3-6, 10-11, 13 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters
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Supplemental Resources

<p>Technology:</p> <ul style="list-style-type: none"> ● SmartBoards ● Chromebooks ● IXL ● Teacher Online Resources ● Applicable educational videos ● Illustrative Mathematics ● Desmos ● Kahoot ● Digital Manipulatives ● Google Sheets
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**Differentiated Student Access to Content:
Recommended *Strategies & Techniques***

Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> ● Small group instruction ● Peer tutoring ● Modeling ● Visual demonstrations ● Encourage creative expression and thinking 	<ul style="list-style-type: none"> ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks ● Provide the steps needed to complete the task ● Model frequently ● Use visuals to demonstrate/model the processes ● Extra time for work 	<ul style="list-style-type: none"> ● Use of translate materials and simplified language ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks ● Provide the steps needed to complete the task ● Model frequently 	<ul style="list-style-type: none"> ● Enrichment book ● Higher-level questions ● Leading group work

	<ul style="list-style-type: none"> ● Modified assignments ● Small group work for more individualize attention 	<ul style="list-style-type: none"> ● Use visuals to demonstrate/model the processes ● Extra time for work ● Modified assignments ● Small group work for more individualize attention 	
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NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept:	
	<i>Core Ideas:</i>	An individual’s strengths, lifestyle goals, choices, and interests affect employment and income.
	<i>Performance Expectation/s:</i>	<ul style="list-style-type: none"> ● 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.
	Career Readiness, Life Literacies, & Key Skills Practices	
	<ul style="list-style-type: none"> ● Act as a responsible and contributing community members and employee. ● Attend to financial well-being. ● Consider the environmental, social and economic impacts of decisions. ● Demonstrate creativity and innovation. ● Utilize critical thinking to make sense of problems and persevere in solving them. ● Model integrity, ethical leadership and effective management ● Plan education and career paths aligned to personal goals. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence. 	

Marking Period	Unit Title	Recommended Instructional Days
3-4	Unit 3	42
Domain:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLs-CLKS within Unit
Strand:	Progress Indicator:	Essential Question/s:
Expressions and Equations	<ul style="list-style-type: none"> ● 7.EE.A.1: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. ● 7.EE.A.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. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.” ● 7.EE.B.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. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. ● 7.EE.B.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. <ul style="list-style-type: none"> a. Solve word problems leading to equations of the form $px + q = r$ and 	<ol style="list-style-type: none"> 1. How do arithmetic and algebraic approaches to solving real-world problems compare? 2. How can equivalent expressions be generated that can shed light on a problem and how quantities are related? 3. What problem-solving methods can be used to determine the number of unique triangles formed by a set of three sides or three angles? 4. How do percentages affect people daily? <p>Activity Description:</p> <ul style="list-style-type: none"> ● <i>Are You Ready?</i> activities (Into Math) ● Lesson Review (Into Math) ● Assessment Forms (Into Math) ● Add and subtract linear expressions with rational coefficients. ● Factor and expand linear expressions with rational coefficients. ● Solve multi-step real-world and mathematical problems with positive and negative rational numbers. ● Apply properties of operations to calculate with numbers in any form. ● Convert between forms of numbers as appropriate. ● Assess the reasonableness of answers using mental computation and estimation strategies. ● Use variables to represent quantities in a real-world or mathematical problem. ● Construct and solve two-step equations and inequalities to solve real-world and mathematical problems. ● Interpret the solutions of equations and inequalities in context. ● Compare an algebraic solution to an arithmetic solution, specifically comparing the sequence of operations used in each approach. ● Graph and the solutions of inequalities. ● Determine and explain whether no triangle, one triangle, or many triangles can be formed from three given side lengths.

	<p>$p(x+q)=r$, where p, q, 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. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</p> <p>b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.</p>	<ul style="list-style-type: none"> ● Determine and explain whether no triangle, one triangle, or many triangles can be formed from three given side lengths. ● Identify angle relationships in geometric figures. ● Apply angle relationships to write equations in one variable to find unknown angle measures. ● Use proportional reasoning to calculate percent increase and percent decrease. ● Solve multi-step problems involving percent change. ● Represent percent problems with double number lines ● Use proportional reasoning to calculate markups and markdowns. ● Represent markups, markdowns, retail prices, and discount prices with equations of the form $y = kx$ by applying proportional reasoning. ● Use proportional reasoning to calculate taxes and gratuities. ● Represent taxes, gratuities, and total cost with equations of the form $y = kx$ by applying proportional reasoning. ● Use proportional reasoning to calculate commissions and fees. ● Calculate total earnings for someone earning a commission and/or fee and assess the reasonableness of answers. ● Use proportional reasoning to calculate simple interest and the total value of an account. ● Use proportional reasoning to assess the reasonableness of their answers. <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <p>Science -</p> <ul style="list-style-type: none"> ● MS-LS1-7 - Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism. ● MS-LS2-3 - Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. ● MS-PS1-2 - Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. ● MS-ETS1-2 - Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. <p>Technology -</p>
<p style="text-align: center;">Geometry</p>	<ul style="list-style-type: none"> ● 7.G.A.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. ● 7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. 	
<p style="text-align: center;">Ratios and Proportional Relationships</p>	<p>7.RP.A.3: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</p>	
<p>Mathematics Practices</p>		
<ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. 		

<ul style="list-style-type: none"> Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others. Model with mathematics. Use appropriate tools strategically. Attend to precision. Look for and make use of structure. Look for and express regularity in repeated reasoning. 		<ul style="list-style-type: none"> 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose. 	
Social and Emotional Learning: <i>Competencies</i>		Social and Emotional Learning: <i>Sub-Competencies</i>	
<ul style="list-style-type: none"> Self-Awareness Self-Management Responsible Decision Making Social Awareness Relationship Skills Motivation 		<ul style="list-style-type: none"> Emotional Awareness Internal Regulation Behavior Control Goal Pursuance Appreciating Social and Environment Diversity Adaptive Behavior Communication Social Engagement Constructive Thinking Consequence Evaluation Respect for Self and Others Enthusiasm Initiative Resilience 	
Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i>		Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i>	
Formative Assessments: <ul style="list-style-type: none"> Check for Understanding Questions Quizzes Class activities/participation Exit tickets 		Benchmarks: <ul style="list-style-type: none"> Module Assessment iReady scores Summative Assessments: <ul style="list-style-type: none"> Module Test Unit Assessment 	
Differentiated Student Access to Content: Teaching and Learning Resources/Materials			
Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core Resources

<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 7-10 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters 	<ul style="list-style-type: none"> ● Modified excerpts from <i>Into Math</i> Textbook, Modules 7-10 ● Extra Practice pages ● Anchor charts ● Scaffolded explanations of topics ● Manipulatives ● Visual aids ● Hands-on learning activities 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 7-10 ● Visual aids ● Manipulatives ● Vocabulary with images and examples ● Hands-on learning activities ● Extra Practice pages ● Anchor charts 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 7-10 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters
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Supplemental Resources

<p>Technology:</p> <ul style="list-style-type: none"> ● SmartBoards ● Chromebooks ● IXL ● Teacher Online Resources ● Applicable educational videos ● Illustrative Mathematics ● PhET ● National Council of Teachers of Mathematics ● Desmos ● Visnos ● Kahoot ● GeoGebra ● Virtual Math Interactives ● Google Sheets

**Differentiated Student Access to Content:
Recommended *Strategies & Techniques***

Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> ● Small group instruction ● Peer tutoring ● Modeling ● Visual demonstrations ● Encourage creative expression and thinking 	<ul style="list-style-type: none"> ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks ● Provide the steps needed to complete the task 	<ul style="list-style-type: none"> ● Use of translate materials and simplified language ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks 	<ul style="list-style-type: none"> ● Enrichment book ● Higher-level questions ● Leading group work

	<ul style="list-style-type: none"> ● Model frequently ● Use visuals to demonstrate/model the processes ● Extra time for work ● Modified assignments ● Small group work for more individualize attention 	<ul style="list-style-type: none"> ● Provide the steps needed to complete the task ● Model frequently ● Use visuals to demonstrate/model the processes ● Extra time for work ● Modified assignments ● Small group work for more individualize attention 	
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NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept:	
	Core Ideas:	An individual's strengths, lifestyle goals, choices, and interests affect employment and income.
	Performance Expectation/s:	<ul style="list-style-type: none"> ● 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.
	Career Readiness, Life Literacies, & Key Skills Practices	
	<ul style="list-style-type: none"> ● Act as a responsible and contributing community members and employee. ● Attend to financial well-being. ● Consider the environmental, social and economic impacts of decisions. ● Demonstrate creativity and innovation. ● Utilize critical thinking to make sense of problems and persevere in solving them. ● Model integrity, ethical leadership and effective management ● Plan education and career paths aligned to personal goals. ● Use technology to enhance productivity increase collaboration and communicate effectively. ● Work productively in teams while using cultural/global competence. 	

Marking Period	Unit Title	Recommended Instructional Days
4	Unit 4	40 days
Domain:		Recommended Activities, Investigations, Interdisciplinary Connections, and/or Student Experiences to Explore NJSLs-CLKS within Unit
Strand:	Progress Indicator:	Essential Question/s:
Geometry	<ul style="list-style-type: none"> ● 7.G.A.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. ● 7.G.A.2: Draw (freehand, with ruler and protractor, and with technology) 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. ● 7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. ● 7.G.B.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.G.B.7: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions between them. ● 8.G.C.9: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. 	<ol style="list-style-type: none"> 1. Why would knowledge of trigonometry be useful to pilots, navigators, or surveyors? 2. How can surface area, and volume be used to solve real-world problems? 3. How can proportional relationships be used to solve real-world problems? 4. How can data be organized, displayed, and summarized to understand trends and draw conclusions? <p>Activity Description:</p> <ul style="list-style-type: none"> ● <i>Are You Ready?</i> activities (Into Math) ● Lesson Review (Into Math) ● Assessment Forms (Into Math) ● Show and explain that definitions for trigonometric ratios derive from similarity of right triangles. ● Determine and compare sine and cosine ratios of complementary angles in a right triangle. ● Solve right triangles (determine all angle measures and all side lengths) using trigonometric ratios. ● Give informal arguments to establish the angle-angle criterion for similarity of triangles. ● Use ratio and proportion to solve problems involving scale drawings of geometric figures. ● Draw geometric shapes with given conditions, including constructing triangles from three measures of angles or sides. ● Use freehand, mechanical (i.e. ruler, protractor) and technological tools to draw geometric shapes with given conditions (e.g. scale factor), focusing on constructing triangles. ● Apply the formula $A = \pi r^2$, where r is the radius and A is area, to solve real-world problems, including problems involving an annulus.
Ratios and Proportional Relationships	<ul style="list-style-type: none"> ● 7.RP.A.2: Recognize and represent proportional relationships between quantities. 	

	<ul style="list-style-type: none"> ● 7.RP.A.3: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. 	<ul style="list-style-type: none"> ● Apply the formulas $C = \pi r^2$ and $C = \pi d$, where r is the radius, d is the diameter, and C is the circumference, to solve real-world problems. ● Solve real-world and mathematical problems involving area, surface area, and volume. ● Apply the formula $A = \pi r^2$, where r is the radius and A is area, to solve real-world problems, including problems involving an annulus. ● Determine the scale of a drawing given the measurement on the scale drawing and the actual measurement. ● Create a scale drawing to represent a floor plan. ● Represent positive and negative rates of change from the perspectives of numbers, graphs, equations, and real-world contexts. ● Analyze and apply concepts of linear relationships in situations involving approximate numbers. ● Recognize patterns in multiplying positive and negative numbers. ● Apply the properties of operations as strategies to multiply and divide rational numbers. ● Solve real-world and mathematical problems using known formulas to calculate the areas of composite figures. ● Solve real-world and mathematical problems involving area, surface area, and volume. ● Appropriately use units. ● Use proportional reasoning to make predictions about a population based on a sample statistic. ● Use proportional reasoning to calculate percent increase and percent decrease. ● Factor and expand linear expressions with rational coefficients. ● Apply properties of operations to calculate with numbers in any form. <p>Interdisciplinary Connections: Content: ;NJSLS#:</p> <p>Technology -</p> <ul style="list-style-type: none"> ● 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.
Expressions and Equations	<ul style="list-style-type: none"> ● 7.EE.A.1: Use properties of operations to generate equivalent expressions. ● 7.EE.B.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. 	
The Number System	<ul style="list-style-type: none"> ● 7.NS.A.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.A.3: Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions. 	
Statistics and Probability	<p>7.SP.B.4: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.</p>	
Mathematics Practices		
<ul style="list-style-type: none"> ● Make sense of problems and persevere in solving them. ● Reason abstractly and quantitatively. 		

<ul style="list-style-type: none"> ● Construct viable arguments and critique the reasoning of others. ● Model with mathematics. ● Use appropriate tools strategically. ● Attend to precision. ● Look for and make use of structure. ● Look for and express regularity in repeated reasoning. 			
<p>Social and Emotional Learning: <i>Competencies</i></p>		<p>Social and Emotional Learning: <i>Sub-Competencies</i></p>	
<ul style="list-style-type: none"> ● Self-Awareness ● Self-Management ● Responsible Decision Making ● Social Awareness ● Relationship Skills ● Motivation 		<ul style="list-style-type: none"> ● Emotional Awareness ● Internal Regulation ● Behavior Control ● Goal Pursuance ● Appreciating Social and Environment Diversity ● Adaptive Behavior ● Communication ● Social Engagement ● Constructive Thinking ● Consequence Evaluation ● Respect for Self and Others ● Enthusiasm ● Initiative ● Resilience 	
<p>Assessments (Formative) <i>To show evidence of meeting the standard/s, students will successfully engage within:</i></p>		<p>Assessments (Summative) <i>To show evidence of meeting the standard/s, students will successfully complete:</i></p>	
<p>Formative Assessments:</p> <ul style="list-style-type: none"> ● Check for Understanding Questions ● Quizzes ● Class activities/participation ● Exit tickets 		<p>Benchmarks:</p> <ul style="list-style-type: none"> ● Module Assessment ● iReady scores <p>Summative Assessments:</p> <ul style="list-style-type: none"> ● Module Test ● Unit Assessment 	
<p>Differentiated Student Access to Content: <i>Teaching and Learning Resources/Materials</i></p>			
<p>Core Resources</p>	<p>Alternate Core Resources <i>IEP/504/At-Risk/ESL</i></p>	<p>ELL Core Resources</p>	<p>Gifted & Talented Core Resources</p>

<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 9, 11 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters 	<ul style="list-style-type: none"> ● Modified excerpts from <i>Into Math</i> Textbook, Modules 9, 11 ● Extra Practice pages ● Anchor charts ● Scaffolded explanations of topics ● Manipulatives ● Visual aids ● Hands-on learning activities 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 9, 11 ● Visual aids ● Manipulatives ● Vocabulary with images and examples ● Hands-on learning activities ● Extra Practice pages ● Anchor charts 	<ul style="list-style-type: none"> ● <i>Into Math</i> Textbook, Modules 9, 11 ● Student Activity Cards ● Teacher Activity Cards ● Numeral Cards ● Dot Cards ● White Boards ● Connecting Cubes ● Number Cubes ● Visual Representations of Numbers and Number of Objects ● Counters
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Supplemental Resources

<p>Technology:</p> <ul style="list-style-type: none"> ● SmartBoards ● Chromebooks ● IXL ● Teacher Online Resources ● Applicable educational videos ● Kahoot ● Illustrative Mathematics ● PhET ● Desmos ● GeoGebra ● PBS Learning Media ● National Council of Teachers of Mathematics

**Differentiated Student Access to Content:
Recommended *Strategies & Techniques***

Core Resources	Alternate Core Resources <i>IEP/504/At-Risk/ESL</i>	ELL Core Resources	Gifted & Talented Core
<ul style="list-style-type: none"> ● Small group instruction ● Peer tutoring ● Modeling ● Visual demonstrations ● Encourage creative expression and thinking 	<ul style="list-style-type: none"> ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks ● Provide the steps needed to complete the task ● Model frequently 	<ul style="list-style-type: none"> ● Use of translate materials and simplified language ● Provide additional manipulatives to support instruction ● Allow for alternative strategies to solve algorithms or tasks ● Provide the steps needed to complete the task 	<ul style="list-style-type: none"> ● Enrichment book ● Higher-level questions ● Leading group work

	<ul style="list-style-type: none"> • Use visuals to demonstrate/model the processes • Extra time for work • Modified assignments • Small group work for more individualize attention 	<ul style="list-style-type: none"> • Model frequently • Use visuals to demonstrate/model the processes • Extra time for work • Modified assignments • Small group work for more individualize attention 	
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NJSLS CAREER READINESS, LIFE LITERACIES & KEY SKILLS	Disciplinary Concept:	
	Core Ideas:	An individual’s strengths, lifestyle goals, choices, and interests affect employment and income.
	Performance Expectation/s:	<ul style="list-style-type: none"> • 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.
	Career Readiness, Life Literacies, & Key Skills Practices	
	<ul style="list-style-type: none"> • Act as a responsible and contributing community members and employee. • Attend to financial well-being. • Consider the environmental, social and economic impacts of decisions. • Demonstrate creativity and innovation. • Utilize critical thinking to make sense of problems and persevere in solving them. • Model integrity, ethical leadership and effective management • Plan education and career paths aligned to personal goals. • Use technology to enhance productivity increase collaboration and communicate effectively. • Work productively in teams while using cultural/global competence. 	

New Jersey Legislative Statutes and Administrative Code
(place an “X” before each law/statute if/when present within the curriculum map)

Amistad Law: <i>N.J.S.A. 18A</i>		Holocaust Law: <i>N.J.S.A. 18A:35-28</i>		LGBT and Disabilities Law: <i>N.J.S.A.</i>		Diversity & Inclusion: <i>N.J.S.A. 18A:35-4.36a</i>		Standards in Action: <i>Climate Change</i>
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	52:16A-88				18A:35-4.35				
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