



West Windsor-Plainsboro Regional School District
Math 7/Math 7 Honors
June 2021

Unit 1: Ratio and Rates	
Content Area: Mathematics	
Course & Grade Level: Math 7 / Math 7 Honors	
Summary and Rationale	
Ratios and rates allow us to compare relationships between quantities and to analyze and interpret the rate of change between the quantities. Rates can also help us compare the rates of change between various relationships. Within this unit, students will extend their understanding of ratios and rates and develop an understanding of proportionality to solve real-world applications. Students will also apply their understanding of ratios and rates to different representations of ratios, unit rates, complex fractions, and scale factors.	
Recommended Pacing	
9 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.	
CPI #	Cumulative Progress Indicator (CPI)
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.
Standard: 7.G.A Draw, construct, and describe geometrical figures and describe the relationships between them.	
CPI #	Cumulative Progress Indicator (CPI)
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.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Interdisciplinary Standards (Science, SS, etc..)	
MS-PS1 Matter and Its Interactions	Ratios and Proportional Relationships (6–7.RP). Science examples: (1) A pile of salt has mass 100 mg. How much chlorine is in it? Answer in milligrams. What would the answer be for a 500 mg pile of salt? (2) Twice as much water is twice as heavy. Explain why twice as much water isn't twice as dense. (3) Based on a model of a water molecule, recognize that any sample of water has a 2:1 ratio of hydrogen atoms to oxygen atoms. (4) Measure the mass and volume of a sample of reactant and compute its density. (5) Compare a measured/computed density to a nominal/textbook value, converting units as necessary. Determine the percent difference between the two. NGSS Appendix L, page 21
MS-LS2 Ecosystems: Interactions Energy, and Dynamics	Ratios and Proportional Relationships (6–7.RP). Science example: Use ratios and unit rates as inputs for evaluating plans for maintaining biodiversity and ecosystem services (e.g., consider the net cost or net value of developing a wetland, using inputs such as the value of various wetland services in dollars per acre per year; in analyzing urban biodiversity, rank world cities by the amount of green space as a fraction of total land area; in analyzing social factors, determine the amount of green space per capita (sq. m per person)). NGSS Appendix L, page 24
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> • Ratios and rates are ideas that help us compare and communicate about the relationships between quantities. 	
Unit Essential Questions	
<ul style="list-style-type: none"> • How do ratio and rates help us make decisions? • What is the best way to represent rates and ratios? • What does scale factor tell us about the relationship between figures? 	
Content Understanding	
<ul style="list-style-type: none"> • Ratios and rates represent relationships between quantities. • Unit rates can help us make decisions in determining better buy. • Scale drawings of geometric figures can help us find actual lengths and areas from a scale drawing. 	
Content Questions	
<ul style="list-style-type: none"> • How do we display rates and ratios in different representations? • How can you use unit rates to determine the better buy? • How does the scale factor determine if an object is enlarged or reduced? • How are complex fractions simplified? • How can you write a ratio to represent a situation and use ratio concepts to solve problems? • How can you use scale drawing to find the missing side of a shape? 	
Objective	
Students will know:	
<ul style="list-style-type: none"> • Vocabulary: Complex fraction, ratio, scale factor, unit rate 	
Students will be able to:	
<ul style="list-style-type: none"> • Write ratios to represent a situation including those associated with ratios of fractions 	

- Identify unit price to compare quantities and determine better buys
- Calculate unit rates and use unit rates to solve problems
- Compute rates and ratios that include complex fractions
- Use scales and scale factors to draw figures and find missing side lengths
- Compute rates associated with ratios of fractions, including ratio of fractions, including ratios of lengths, areas and other quantities measured in like or different units
- 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
- Express a ratio in multiple forms, calculating unit rate, comparing unit price to find better buy, finding unknown lengths using scale factor

Evidence of Learning

Assessment

Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.

Resources

Core Text: EdGems Course 2, McCaw 2018

Unit 2: Rational Numbers	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
<p>Number sense and fluency are important traits of successful mathematicians. An understanding of numbers and how they relate to each other is the foundation of all mathematical learning. In this unit, students will extend their understanding of addition, subtraction, multiplication, and division to the set of integers as well as other types of rational numbers (fractions and decimals), while maintaining the properties of operations and the relationships between them. Students will develop their conceptual understanding of numerical operations and will explore the use of negative numbers in real-world phenomena.</p>	
Recommended Pacing	
27 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.NS.A Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	
CPI #	Cumulative Progress Indicator (CPI)
1	<p>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.</p> <p>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?</p> <p>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.</p> <p>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.</p>
2	<p>Apply and extend previous understandings of multiplication and 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</p>

	<p>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>
3	Solve real-world and mathematical problems involving the four operations with rational numbers.
Standard: 8.EE.A Work with radicals and integer exponents.	
CPI #	Cumulative Progress Indicator (CPI)
3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 , and determine that the world population is more than 20 times larger.
4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Interdisciplinary Standards Science	
MS-PS2 Motion and Stability: Forces and Interactions	The Number System (6–8.NS). Science examples: (1) Represent a third-law pair of forces as a 100 N force on one object and a –100N force on the other object. (2) Represent balanced forces on a single object as equal and opposite numbers 5 N. (3) Represent the net result of two or more forces as a sum of signed numbers. For example, given a large force and an oppositely directed small force, represent the net force as $(100 \text{ N}) + (-5 \text{ N}) = 95 \text{ N}$. Relate the number sentence to the fact that the net effect on the motion is approximately what it would have been with only the large force. NGSS Appendix L, page 22
MS-ESS2 Earth’s Systems	The Number System (6–8.NS). Science examples: (1) Use positive and negative quantities to quantify changes in physical quantities such as atmospheric pressure and temperature; for example, if the temperature dropped from 24 degrees C to 11 degrees C, then the temperature change was –13degrees C. (2) Solve word problems relating to changes in signed physical quantities. For example, a shift in the jet stream caused a 10 degreesC temperature increase in a

	single day; if the temperature before was -32 degrees C, what was the temperature after? NGSS, Appendix L, page 26
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Numerical representations can be used to describe and compare the value of real-world quantities. ● The properties and concepts of numerical operations can be extended across the set of real numbers. ● Mathematical properties allow us to transform numerical expressions into equivalent forms. ● Order of operations is a universal language for solving mathematical problems. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● Does the form of a number change the way we compute using the four operations of arithmetic? ● How are mathematical operations between different sets of numbers related? ● What makes a computational strategy both effective and efficient? 	
Content Understandings	
<ul style="list-style-type: none"> ● There are multiple ways to represent a number. ● Operations create relationships between numbers. ● Previous understandings of operations with integers help with operations of all rational numbers. ● Understanding of positive and negative rational numbers is useful in problem solving. ● Order of operations affect the result of a numerical expression. 	
Content Questions	
<ul style="list-style-type: none"> ● What is the difference between the opposite and the absolute value of a number? ● How is the absolute value of a number helpful when using operations? ● Why is subtracting a negative equivalent to adding a positive? ● How do we use integers to represent real world situations? ● How do mathematical operations relate to each other? ● How can estimation help determine if an answer is reasonable? 	
Objectives	
Students will know:	
<ul style="list-style-type: none"> ● Vocabulary: absolute value, opposite, inverse, positive, negative, rational number, exponent, base ● The meaning and application of absolute value ● How mathematical operations relate to each other 	
Students will be able to:	
<ul style="list-style-type: none"> ● Fluently add, subtract, multiply, and divide integer ● Identify, describe, and find the absolute value of integers ● Express their number sense with rational numbers ● Compare, and order rational numbers ● Convert between standard notation and scientific notation ● Perform computations with scientific notation ● Apply operations with integers and rational numbers in order to simplify numerical expressions using the order of operations ● Solve real world problems using rational numbers 	
Evidence of Learning	
Assessment	
Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.	
Resources	
Core Text: EdGems Course 2, McCaw 2018	

Unit 3: Proportional Relationships	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
<p>Many real-world relationships can be modeled as proportions which allows us to analyze the rate of change, solve problems and make predictions. In this unit, students will extend their understanding of ratios and develop an understanding of proportionality to solve real-world applications. This unit will connect students' previous knowledge of proportional relationships to expressing proportional relationships in tables, equations, and graphs. Students will graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line.</p>	
Recommended Pacing	
16 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.	
CPI #	Cumulative Progress Indicator (CPI)
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. 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 $t = pn$. 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.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics

RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Interdisciplinary Standards Science	
MS-PS3 Energy	Ratios and Proportional Relationships (6–7.RP) and Functions (8.F). Science examples: (1) Analyze an idealized set of bivariate measurement data for kinetic energy vs. mass (holding speed constant). Decide whether the two quantities are in a proportional relationship, e.g., by testing for equivalent ratios or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. (2) Do the same for an idealized set of data for kinetic energy vs. speed (holding mass constant). (For Grade 8: Recognize from the data that the relationship is not proportional; that kinetic energy is a nonlinear function of speed. Draw conclusions such as that doubling the speed more than doubles the kinetic energy. What are some possible implications for driving safety? NGSS, Appendix L, page 23
MS-PS4 Waves and Their Applications in Technologies for Information Transfer	Ratios and Proportional Relationships (6–7.RP) and Functions (8.F). Science examples: (1) Analyze an idealized set of bivariate measurement data for wave energy vs. wave amplitude. Decide whether the two quantities are in a proportional relationship, (e.g., by testing for equivalent ratios or graphing on a coordinate plane and observing whether the graph is a straight line through the origin). NGSS, Appendix L, page 23
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> • Ratios, rates, and proportions are ideas that help us compare and communicate about mathematical relationships. • Proportional relationships can be expressed through equations, tables, and graphs. There are situations, contexts and problems where each of these is the most efficient way to communicate about the relationship. 	
Unit Essential Questions	
<ul style="list-style-type: none"> • How do proportions model real world phenomena? • How do ratios, rates, and proportions help us solve problems, make decisions, and predictions? • What are the benefits of displaying proportional relationships in different representations? 	
Content Understandings	
<ul style="list-style-type: none"> • Proportions model real-life situations and help us solve problems. • There are multiple ways to determine if two quantities are proportional. • Proportional relationships can be represented using a table, graph, or an equation. 	
Content Questions	
<ul style="list-style-type: none"> • How can we determine if two quantities are in a proportional relationship? • How can we solve for a missing value in a proportion? • How can we determine if ratios form a proportional relationship? • How can we express a real-world and mathematical situation as a proportion? 	

- How do we use the distance formula to solve for distance? Rate? Time?
- How can we identify whether two quantities are proportional using a table? A graph? An equation?
- How can we identify the unit rate in a graph?

Objectives

Students will know:

- Vocabulary: constant of proportionality, proportion, proportional
- The meaning and application of a proportional relationship
- How to recognize and represent proportional relationships in a variety of representations

Students will be able to:

- Determine if ratios form a proportion and solve for a missing value in a proportion
- Use proportions to solve real-world and mathematical situations
- Use proportions to solve problems involving similar figures
- Use the distance formula to solve for distance, rate, or time
- Recognize and represent proportional relationships using tables, graphs, and equations
 - Decide whether two quantities are proportional using tables and graphs
 - Analyze proportional relationships using equations, tables, graphs, and verbal descriptions
 - Explain what a point (x,y) means on a proportional graph in context, particularly $(0,0)$ and $(1,r)$ where r is the unit rate.

Evidence of Learning

Assessment

Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.

Resources

Core Text: EdGems Course 2, McCaw 2018

Unit 4: Percents	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
An understanding of percent and the applications of percent allows us to use efficient and abstract methods to solve problems and make decisions in many real world contexts. Students will explore the equivalences between fractions, decimals, and percents. They will apply what they know about proportional relationships to solve and interpret a variety of problems involving percent of change, sales tax, tip, discount, and simple interest. Students will use the reasoning skills they learn to make decisions in the real world about products, services, and situations they will encounter.	
Recommended Pacing	
19 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.	
CPI #	Cumulative Progress Indicator (CPI)
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.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	

9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> Proportional relationships and equations can help us compare, communicate, and make decisions about mathematical relationships involving percent. Fractions, decimals and percents can be used to represent equivalent forms of the same value. 	
Unit Essential Questions	
<ul style="list-style-type: none"> When is it most appropriate to use a fraction, a decimal, or a percentage? How are percentages used to describe or quantify real-world situations? How can proportional relationships be used to solve multi-step percent problems? 	
Content Understandings	
<ul style="list-style-type: none"> Fractions, decimals, and percents can be used to represent equivalent forms of the same value. When finding a certain percent of a given quantity, the answer must be greater than the given quantity if the result is more than 100% of it and less if the result is less than 100% of it. Percent problems can be interpreted and solved by modeling the relationship using mental math, equations, and proportions. Percent decreases and increases are measures of percent change, which is a relative measure based on absolute change. 	
Content Questions	
<ul style="list-style-type: none"> How are different forms of rational numbers (percents, fractions and decimals) related? How do we recognize the most efficient way to calculate a percentage? How does the concept of percent as a ratio out of 100 help to solve for the part, whole or the percent of a number? How does the proportional understanding of percent help to solve problems involving discount, tax, interest, tips and percent of change? 	
Objectives	
<p>Students will know:</p> <ul style="list-style-type: none"> Vocabulary: commission, discount, interest, sales tax, mark-up, percent error, percent of change, terminating decimal, repeating decimal, rational number <p>Students will be able to:</p> <ul style="list-style-type: none"> Use common fraction-decimal-percent equivalents Convert between fractions, decimals, and percents Use strategies for solving mental math percent problems including tips Solve percent problems (find percent, part or whole) using proportions or equations Find discount and sale price, sales tax, commission, paycheck taxes, simple interest, percent of change 	
Evidence of Learning	
Assessment	
Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.	
Resources	
Core Text: EdGems Course 2, McCaw 2018	

Unit 5: Algebraic Expressions, Equations and Inequalities	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
<p>The study of equations and inequalities helps students link concrete arithmetic skills to broad conceptual situations. Students will use the language of algebra to represent and analyze relationships among variable quantities and solve more complex problems involving algebraic concepts and processes. This study will continue to build a foundation for learning the language of mathematics and the skills needed to move into a more conceptual understanding of numerical operations. Students will expand their abilities to use algebraic representations to model situations.</p>	
Recommended Pacing	
28 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.EE.A Use properties of operations to generate equivalent expressions.	
CPI #	Cumulative Progress Indicator (CPI)
1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
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."
Standard: 7.EE.B Solve real-life and mathematical problems using numerical and algebraic expressions and equations.	
CPI #	Cumulative Progress Indicator (CPI)
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. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place</i>

	<i>the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation</i>
4	<p>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.</p> <p>a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i></p> <p>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. <i>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.</i></p>
Standard: 8.EE.A Work with radicals and integer exponents.	
CPI #	Cumulative Progress Indicator (CPI)
1	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^{-2} = 1/(3 \times 3) = 1/27$
2	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Interdisciplinary Standards Science	
MS-LS1 From Molecules to Organisms: Structures and Processes	Expressions and Equations (6–8.EE). Science examples: (1) Quantify the sizes of cells and parts of cells, using convenient units such as microns as well as (in Grade 8) scientific notation. (2) Appreciate the orders of magnitude that span the difference in size between cells, molecules, and atoms. (3) Write a number sentence that expresses the conservation of mass as food moves through an organism. Assign values to the arrows in a diagram to show flows quantitatively. (4) Infer an unknown mass by using the concept of conservation to write and solve an equation with a variable. NGSS, Appendix L page 24
MS-LS2 Ecosystems:	Expressions and Equations (6–8.EE). Science examples: (1) Write a number sentence that expresses the conservation of total matter or energy in a system as matter or energy flows into, out of, and

Interactions , Energy, and Dynamics	within it. Assign values to the arrows in a diagram to show flows quantitatively. (2) Infer an unknown matter or energy flow in a system by using the concept of conservation to write and solve an equation with a variable. NGSS, Appendix L, page 24
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Real world situations can be represented symbolically and graphically. Rules of arithmetic and algebra can be used together with the concept of equivalence to transform expressions, equations, and inequalities in order to find solutions to problems. ● Algebraic and numerical procedures are interconnected and build on one another to produce a coherent number system. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● How does thinking algebraically compare to thinking arithmetically? ● How can expressions, equations, and inequalities model real world phenomena? ● How do mathematical properties contribute to algebraic understanding? ● How can arithmetic operations be extended to solve algebraic equations and inequalities? 	
Content Understandings	
<ul style="list-style-type: none"> ● Algebraic expressions can be used to model unknown quantities. ● Algebraic properties can generate equivalent expressions and equations. ● Equations and inequalities model real-life situations and help us solve problems. ● Equations and inequalities can be solved using distributing, combining like terms, and inverse operations. ● Solution(s) can be verified by substituting them into the equation to see if it remains true. ● There are different ways to represent the solution set to an inequality 	
Content Questions	
<ul style="list-style-type: none"> ● How can we evaluate algebraic expressions when given a value? ● How can we represent real world situations algebraically? ● How can we simplify algebraic expressions? ● How can we factor an algebraic expression using a GCF? ● How can inverse operations be applied to solve equations or inequalities? ● How should we deal with negative coefficients when solving inequalities? ● How can we represent solutions to inequalities on a number line? ● How can we interpret solutions to equations and inequalities? 	
Objectives	
<p>Students will know:</p> <ul style="list-style-type: none"> ● Vocabulary: expression, coefficient, constant, equivalent, evaluate, factor, variable, like terms, perfect square, perfect cube, rational, irrational <p>Students will be able to:</p> <ul style="list-style-type: none"> ● Write and evaluate expressions in which variables represent unknown quantities ● Simplify expressions by using the distributive property and combining like terms ● Factor algebraic expressions using the greatest common factor ● Apply mathematical properties in order to simplify algebraic expressions, solve equations, and solve inequalities ● Solve equations and inequalities with variables on both sides (rational coefficients) ● Solve equations with square and cube roots ● Graph and interpret solutions of inequalities ● Solve multi-step, real-life, and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using algebraic expressions and equations 	
Evidence of Learning	

Assessment
Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.
Resources
Core Text: EdGems Course 2, McCaw 2018

Unit 6: Geometry	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
Geometry is a critical component of mathematics education because students are required to integrate logical reasoning and spatial visualization skills. Students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe, and analyze representations of real-world objects. Students will explore properties of geometric figures, identify attributes of geometric figures, and solve problems using angle relationships. Students will add to their understanding of two-dimensional figures by focusing on the circumference and area of circles and they will use these in composite figures. They will extend their understanding to three-dimensional solid figures through the exploration of surface area and volume.	
Recommended Pacing	
30 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.G.A Draw, construct, and describe geometrical figures and describe the relationships between them.	
CPI #	Cumulative Progress Indicator (CPI)
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	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
Standard: 7.G.B Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	
CPI #	Cumulative Progress Indicator (CPI)

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	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.
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.
Standard: 8.G.B Understand and apply the Pythagorean Theorem	
CPI #	Cumulative Progress Indicator (CPI)
7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> Geometric concepts, relationships, and measurement are an attempt to model, describe, classify, and analyze real world objects. Classifying figures requires the ability to look for common attributes and notice differences in figures. 	
Unit Essential Questions	
<ul style="list-style-type: none"> How can the connections between the attributes of geometric figures support mathematical reasoning and problem solving? What are the unifying attributes of different groups of polygons? How does two-dimensional geometry differ from three-dimensional geometry? How do the properties of 2D and 3D figures help us develop rules for measuring the area, volume and surface area of these figures? 	
Content Understandings	
<ul style="list-style-type: none"> Special angle relationships are formed when parallel lines are cut by a transversal Knowledge of area can be used to find the area of composition shapes and surface area Knowledge of algebraic equations can be used to find the missing values of equations and formulas Understanding the properties of two-dimensional shapes leads to an understanding of the properties of three-dimensional shapes 	
Content Questions	
<ul style="list-style-type: none"> How do we use geometric symbols to name geometric figures? 	

- What special angle relationships are formed when a parallel line is cut by a transversal?
- How can using special angle relationships help you find the values of missing angles?
- How can we classify a triangle by its most specific name?
- What conditions about a triangle's sides lengths determine if it is a triangle?
- How can we find the interior angle sum of polygons?
- What is the difference between area and perimeter?
- How can we use radius or diameter to find the circumference and area of a circle?
- How can we find missing dimensions of a 2D shape given its area?
- How can knowledge of area help solve composition shapes and shaded region shapes?
- How can we use area concepts in order to find volume and surface area of 3D figures?
- How can we find missing dimensions of a 3D shape given its volume?
- What is the difference between area and surface area?
- How do we use attributes to classify three-dimensional shapes?

Objectives

Students will know:

- Vocabulary: adjacent angles, vertical angles, linear pair, degrees, center, chord, circle, radius, pi, circumference, complementary, supplementary, trapezoid, face, vertex, edge, cone, cylinder, prism, pyramid, sphere, surface area, volume
- Formulas:
 - Area of circle, trapezoid, triangle, rectangle, parallelogram
 - Volume and surface area of prisms, pyramids, cones, cylinders
 - Pythagorean Theorem

Students will be able to:

- Measure and describe relationships among supplementary, complementary, vertical and adjacent angles.
- Classify and determine the measure of angles created when parallel lines are cut by a transversal.
- Use the Pythagorean Theorem to determine missing sides of right triangles
- Use properties of polygons and be able to apply algebraic equations to find missing measures
- Find circumference of circles or irregular figures
- Find perimeters and areas of composite two-dimensional figures
- Find area of circles and irregular figures with parts of circles
- Find surface area of prisms and cylinders
- Calculate the volume of prisms, pyramids, cones, and cylinders
- Find the missing dimension given the area or volume of a figure

Evidence of Learning

Assessment

Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.

Resources

Core Text: EdGems Course 2, McCaw 2018

Unit 7: Probability and Statistics	
Content Area: Mathematics	
Course & Grade Level: Math 7/ Math 7 Honors	
Summary and Rationale	
An understanding of probability and statistics allows us to qualitatively and quantitatively describe real world data, populations, and events in order to make inferences and predictions. Students will explore ways to calculate probabilities to describe seemingly random events. Through investigating chance processes, students will develop, use, and evaluate probability models to make predictions or decisions. Students will make inferences about populations using sampling and measures of centers and variability.	
Recommended Pacing	
17 days	
New Jersey Student Learning Standards for Mathematics	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
1	Make sense of problems and persevere in solving them.
2	Reason abstractly and quantitatively.
3	Construct viable arguments and critique the reasoning of others.
4	Model with mathematics
5	Use appropriate tools strategically.
6	Attend to precision.
7	Look for and make use of structure.
8	Look for and express regularity in repeated reasoning
Standard: 7.SP.A Use random sampling to draw inferences about a population	
CPI #	Cumulative Progress Indicator (CPI)
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. <i>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</i>
Standard: 7.SP.B Draw informal comparative inferences about two populations.	
CPI #	Cumulative Progress Indicator (CPI)
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. <i>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.</i>

4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. <i>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.</i>
Standard: 7.SP.C Investigate chance processes and develop, use, and evaluate probability models.	
CPI #	Cumulative Progress Indicator (CPI)
5	Understand that the probability of a chance event is a 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 or likely, and a probability near 1 indicates a likely event.
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. <i>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.</i>
7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. <ul style="list-style-type: none"> a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. <i>For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</i> b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. <i>For example, find the approximate probability that 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?</i>
8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. <ul style="list-style-type: none"> 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. <i>For example, use random digits as a simulation tool to approximate the answer to the question: 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?</i>
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)

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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Interdisciplinary Standards Science	
MS-LS3 Heredity: Inheritance and Variation of Traits	Statistics and Probability (6–8.SP). Science examples: (1) Recognize a Punnett square as a component of a probability model, and compute simple probabilities from the model. (2) Use a computer to simulate the variation that comes from sexual reproduction, and determine probabilities of traits from the simulation. NGSS Appendix L, page 25
MS-PS1 Matter and Its Interactions	Statistics and Probability (6–8.SP). Science example: Compile all the boiling point measurements from the class into a line plot and discuss the distribution in terms of clustering and outliers. Why weren't all the measured values equal? How close is the average value to the nominal/textbook value? Show the average value and the nominal value on the line plot. NGSS, Appendix L, page 21
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Probability is about prediction over the long term rather than predictions of individual events. ● There are patterns of chance in numerical outcomes that statisticians use to predict the future. ● The way that data is collected, organized and displayed influences interpretation. ● The probability of an event's occurrence can be predicted with varying degrees of confidence. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● How can probability be used to make predictions or draw conclusions? ● How is probability related to real world events? ● How can data be described and interpreted? ● How do people use data to influence others? 	
Content Understandings	
<ul style="list-style-type: none"> ● Probability can be used to make predictions and decisions. ● Probability can be compared based on theoretical models. ● Probability of a chance event is a number that expresses the likelihood of the event occurring ● Probability of events can be shown using organized lists, tables, tree diagrams, and simulations ● Informal comparative inferences can be drawn about two populations by assessing data distributions ● Measures of center and variability can help to make inferences about data sets ● Generalizations about a population from a sample are only valid if the sample is representative of that population ● Random sampling produces representative samples and support valid inferences 	
Content Questions	
<ul style="list-style-type: none"> ● How can you find a probability from a model? ● What is the difference between theoretical probability and experimental probability? ● How can we calculate compound probability? ● How can you tell if a probability model is uniform or non-uniform? ● What are the qualities of a representative sample? ● How can we use data displays to analyze and describe a data set? ● What do measures of center and variability tell us about a data set? 	
Objectives	
Students will know:	

- Vocabulary: biased, inference, population, random sample, box and whisker, five number summary, interquartile, outcome, sample space, compound event, independent event, dependent events, simple event, experimental probability, theoretical probability, trial

Students will be able to:

- Develop probability models and use them to find probabilities.
- Calculate and compare experimental and theoretical probabilities
- Calculate the probability of a compound event
- Express probability as a fraction, decimal, or percent
- Identify and create uniform and non-uniform probability models
- Use data from random samples to make inferences about a population
- Examine a sample of a population and make generalizations about the data
- Compare samples using measures of center and variability

Evidence of Learning

Assessment

Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.

Resources

Core Text: EdGems Course 2, McCaw 2018

Unit 8: Financial Literacy	
Content Area: Mathematics	
Course & Grade Level: Math 7/Math 7 Honors, 7	
Summary and Rationale	
Financial literacy for students is an important tool to improve the financial capability of our youth and communities. Students should be taught how to handle money—both at home and in school. This will help reduce the economic impact of the long-term recession that now grips many communities across the country. Teaching students about money has a great impact on their future. Grasping even the most basic lessons gets students considering available options before making important monetary decisions; in turn, this careful consideration may help them avoid personal debt and improve their chances of achieving financial security.	
Recommended Pacing	
8 days	
New Jersey Student Learning Standards for Financial Literacy	
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
9.1.8.A.1	Explain the meaning and purposes of taxes and tax deductions and why fees for various benefits (e.g., medical benefits) are taken out of pay
9.1.8.A.2	Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.
9.1.8.A.3	Differentiate among ways that workers can improve earning power through the acquisition of new knowledge and skills.
9.1.8.A.5	Relate how the demand for certain skills determines an individual’s earning power.
9.1.8.A.6	Explain how income affects spending decisions.
9.1.8.A.7	Explain the purpose of the payroll deduction process, taxable income, and employee benefits.
New Jersey Student Learning Standards for English Language Arts Companion Standards	
Standard: Science Key Ideas and Details	
CPI #	Cumulative Progress Indicator (CPI)
RST.6-8.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills	
Standard: Critical Thinking and Problem Solving	
CPI #	Cumulative Progress Indicator (CPI)
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).
Standard: Technology Literacy	
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> We must understand the difference between our wants and needs and use that information to make 	

informed decisions for our business.

- We need to understand the type of education that we need in order to meet our career goals.
- We must understand our personal and financial goals and how to reach them.
- Taxes will be deducted from your pay

Unit Essential Questions

- How do we prioritize wants and needs when making purchases?
- How does education impact employment?
- Will your choice in career support your lifestyle choices?
- How do taxes contribute to a better society?

Objectives

Students will be able to:

- Summarize the advantages and disadvantages of becoming an entrepreneur.
- Describe how entrepreneurship differs from working for a paycheck from an employer.
- Determine their personal aptitude for entrepreneurship using one or more online assessment tools.
- Describe how entrepreneurs must manage their finances in a different way than employees do
- Describe different types of taxes in the U.S. and what the money collected from taxes is used for.
- Demonstrate understanding of federal income tax brackets and marginal tax rates.
- Apply understanding of the difference between tax credits and tax deductions to case study scenarios.
- Explain common health insurance terms such as deductible, coinsurance, and copayment.
- Complete math problems that apply health insurance terminology.
- Compare the costs and features of various health insurance plans.
- Explain what can happen when people lack health insurance.
- Define the terms “needs” and “wants” and distinguish between them with real world examples.
- Determine criteria to make budgeting decisions and prioritize household expenses.
- Define the term “opportunity cost” and provide real world examples of spending plan trade-offs.
- Track personal expenses and develop a personal spending plan/budget using an online calculator.
- Define the goals they need to achieve to start in their chosen careers.
- Explore career clusters and the specific pathway associated with their goal occupation.
- Explore other career options that all relate to their interests

Evidence of Learning

Assessment

Assessment plan may include teacher designed formative and summative assessments, a district common assessment, analysis of standardized test and NJSLA data.

Resources

Core Text: None

Suggested Resources: NJ Model Curriculum Lessons 1,6,8,10

<https://www.careeronestop.org/ExploreCareers/explore-careers.aspx?&frd=true>

<https://www.usa.gov/government-jobs-lesson-plan?source=kids>