

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: September (16 days)

Unit: 1. Connections to Algebra

NJCCCS: 4.1 Numbers & Numerical Operations; 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes; 4.4 Data Analysis, Probability, & Discrete Mathematics

Essential Questions:

1. How can variables be used to represent mathematical situations?
2. How can tables, graphs, and verbal explanations be linked to equations and inequalities?
3. How are arithmetic and algebraic expressions evaluated?
4. What is a general procedure for solving math problems?
5. How can we use data to make inferences?

Enduring Understanding		Words, tables, equations/inequalities/expressions, and pictures can all be used to describe a mathematical pattern.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 8 pertain to these sets of numbers as well): <ul style="list-style-type: none"> • Rational numbers • Percents • Exponents 		McDougal Littell Chapter 1			
1.A.2. Demonstrate a sense of the relative magnitudes of numbers.					
1.A.5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.					

<p>1.B.1. Use and explain procedures for performing calculations involving addition, subtraction, multiplication, division, and exponentiation with integers and all number types named above with:</p> <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 		<p>McDougal Littell Chapter 1</p>			
<p>1.B.2. Use exponentiation to find whole number powers of numbers.</p>					
<p>1.B.5. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.</p>					
<p>3.A.1. Recognize, describe, extend, and create patterns involving whole numbers, rational numbers, and integers.</p> <ul style="list-style-type: none"> • Descriptions using tables, verbal and symbolic rules, graphs, simple equations or expressions • Finite and infinite sequences • Arithmetic sequences (i.e., sequences generated by repeated addition of a fixed number, positive or negative) • Geometric sequences (i.e., sequences generated by repeated multiplication by a fixed positive ratio, greater than 1 or less than 1) 					
<p>3.A.2. Generating sequences by using calculators to repeatedly apply a formula</p>					
<p>3.C.1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.</p>					

<p>3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations.</p> <ul style="list-style-type: none"> Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 		<p>McDougal Littell Chapter 1</p>			
<p>3.D.4. Create, evaluate, and simplify algebraic expressions involving variables.</p> <ul style="list-style-type: none"> Order of operations, including appropriate use of parentheses Distributive property Substitution of a number for a variable Translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 					
<p>4.A.1. Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode).</p> <ul style="list-style-type: none"> Type of display most appropriate for given data Calculators and computer used to record and process information 					
<p>4.A.2. Make inferences and formulate and evaluate arguments based on displays and analysis of data.</p>					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: October (18 days)

Unit: 2. Properties of Real Numbers

NJCCCS: 4.1 Numbers & Numerical Operations; 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes; 4.4 Data Analysis, Probability, & Discrete Mathematics

Essential Questions:

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|---|
| 1. How can we add, subtract, multiply and divide signed numbers? |
| 2. How can matrices be used to describe data? |
| 3. How can we describe the likelihood of an event mathematically? |

Enduring Understanding		Whole number operations can be extended to signed numbers using the properties of the operations. Data can be represented in tabular form in a matrix. Rational numbers are used to describe the likelihood of an event.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 8 pertain to these sets of numbers as well):		McDougal Littell Chapter 2			
<ul style="list-style-type: none"> • Rational numbers • Percents • Exponents • Absolute values 					
1.A.2. Demonstrate a sense of the relative magnitudes of numbers.					
1.A.4. Compare and order numbers of all named types.					
1.A.5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.					

<p>1.B.1. Use and explain procedures for performing calculations involving addition, subtraction, multiplication, division, and exponentiation with integers and all number types named above with:</p> <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 		<p>McDougal Littell Chapter 2</p>			
<p>1.B.5. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.</p>					
<p>1.B.3. (HS) Perform operations on matrices.</p> <ul style="list-style-type: none"> • Addition and subtraction • Scalar multiplication 					
<p>3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations.</p> <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 					
<p>3.D.1. Use graphing techniques on a number line.</p> <ul style="list-style-type: none"> • Absolute value • Arithmetic operations represented by vectors (arrows) (e.g., “-3 + 6” is “left 3, right 6”) 					
<p>3.D.4. Create, evaluate, and simplify algebraic expressions involving variables.</p> <ul style="list-style-type: none"> • Order of operations, including appropriate use of parentheses • Distributive property • Substitution of a number for a variable 					

<ul style="list-style-type: none"> • Translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 		McDougal Littell Chapter 2			
3.D.5. Understand and apply the properties of operations, numbers, equations, and inequalities. <ul style="list-style-type: none"> • Additive inverse • Multiplicative inverse • Addition and multiplication properties of equality • Addition and multiplication properties of inequalities 					
4.B.1. Interpret probabilities as ratios, percents, and decimals.					
4.B.2. Determine probabilities of compound events.					
4.B.3. Explore the probabilities of conditional events (e.g., if there are seven marbles in a bag, three red and four green, what is the probability that two marbles picked from the bag, without replacement, are both red).					
4.B.4. Model situations involving probability with simulations (using spinners, dice, calculators and computers) and theoretical models. <ul style="list-style-type: none"> • Frequency, relative frequency 					
4.B.5. Estimate probabilities and make predictions based on experimental and theoretical probabilities.					
4.B.6. Play and analyze probability-based games, and discuss the concepts of fairness and expected value.					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: November (18 days)

Unit: 3. Solving Linear Equations

NJCCCS: 4.1 Numbers & Numerical Operations; 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes; 4.2 Geometry and Measurement

Essential Questions:

1. How can we solve linear equations?
2. How can formulas help us solve problems?
3. How are rates, ratios, and percents used in solving problems?

Enduring Understanding		To solve an equation, you must use the laws of algebra to find equivalent equations, keeping both sides of the equation equal. Formulas describe specific relationships in mathematics and in other fields and can be solved for one variable when the other values are known. Rates, ratios, and percents are also useful in describing situations and solving problems.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.3. Understand and use ratios, proportions, and percents (including percents greater than 100 and less than 1) in a variety of situations.		McDougal Littell Chapter 3			
1.B.4. Solve problems involving proportions and percents.					
3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations. <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 					

<p>3.D.2. Solve simple linear equations informally, graphically, and using formal algebraic methods.</p> <ul style="list-style-type: none"> • Multi-step, integer coefficients only (although answers may not be integers) • Using paper-and-pencil, calculators, graphing calculators, spreadsheets, and other technology 		<p>McDougal Littell Chapter 3</p>			
<p>3.D.4. Create, evaluate, & simplify algebraic expressions involving variables.</p> <ul style="list-style-type: none"> • Order of operations, including appropriate use of parentheses • Distributive property • Substitution of a number for a variable • Translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 					
<p>3.D.5. Understand and apply the properties of operations, numbers, equations, and inequalities.</p> <ul style="list-style-type: none"> • Additive inverse • Multiplicative inverse • Addition and multiplication properties of equality • Addition and multiplication properties of inequalities 					
<p>2.E.3. Develop and apply strategies and formulas for finding the surface area and volume of a three-dimensional figure.</p> <ul style="list-style-type: none"> • Volume - prism, cone, pyramid • Surface area – prism (triangular or rectangular base), pyramid (triangular or rectangular base) 					

<ul style="list-style-type: none"> • Impact of a dilation on the surface area and volume of a three-dimensional figure 		McDougal Littell Chapter 3			
2.E.4. Use formulas to find the volume and surface area of a sphere.					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: December - January
(18 days)

Unit: 4. Graphing Linear Equations and Functions

NJCCCS: 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

1. How is the pattern of change for a linear function reflected in a table, graph, or equation?
2. What do you need to know to graph a linear function?
3. How can you use a graph to solve a linear equation?

Enduring Understanding					
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
3.B.1. Graph functions, and understand and describe their general behavior. <ul style="list-style-type: none"> • Equations involving two variables • Rates of change (informal notion of slope) 		McDougal Littell Chapter 4			
3.B.2. (HS) Analyze and explain the general properties and behavior of functions of one variable, using appropriate graphing technologies. <ul style="list-style-type: none"> • Slope of a line or curve • Domain and range • Intercepts • Estimating roots of equations • Rates of change 					

<p>3.C.1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.</p>		<p>McDougal Littell Chapter 4</p>			
<p>3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations.</p> <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 					
<p>3.C.1. (HS) Use functions to model real-world phenomena and solve problems that involve varying quantities.</p> <ul style="list-style-type: none"> • Direct and inverse variation • Expressions, equations and inequalities • Same function can model variety of phenomena 					
<p>3.D.2. Solve simple linear equations informally, graphically, and using formal algebraic methods.</p> <ul style="list-style-type: none"> • Multi-step, integer coefficients only (although answers may not be integers) • Using paper-and-pencil, calculators, graphing calculators, spreadsheets, and other technology 					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: February (16 days)

Unit: 5. Writing Linear Equations

NJCCCS: 4.3 Patterns & Algebra; 4.4 Data Analysis, Probability, & Discrete Math

Related Standards: 4.5 Mathematical Processes

Essential Questions:

1. What do we need to know to find the equation of a line?
2. What are the effects of transformations on the equation of a line?
3. How can we use a linear equation to describe a linear trend?

Enduring Understanding		You can find the equation of a line if you know the slope and a point on the line or if you know two points. You can fit a line to data that has a linear trend and use the equation to predict unknown values.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
3.B.1. Graph functions, and understand and describe their general behavior. <ul style="list-style-type: none"> Equations involving two variables Rates of change (informal notion of slope) 		McDougal Littell Chapter 5			
3.B.2. (HS) Analyze and explain the general properties and behavior of functions of one variable, using appropriate graphing technologies. <ul style="list-style-type: none"> Slope of a line or curve Domain and range Intercepts Estimating roots of equations Rates of change 					

<p>3.B.3. (HS) Understand and perform transformations on commonly-used functions.</p> <ul style="list-style-type: none"> • Translations, reflections, dilations • Effects on linear graphs of parameter changes in equations 		<p>McDougal Littell Chapter 5</p>			
<p>3.C.1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.</p>					
<p>3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations.</p> <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 					
<p>4.A.1. Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode).</p> <ul style="list-style-type: none"> • Scatter plot • Calculators and computer used to record and process information 					
<p>4.A.2. Make inferences and formulate and evaluate arguments based on displays and analysis of data.</p>					
<p>4.A.3. Estimate lines of best fit and use them to interpolate within the range of the data.</p>					
<p>4.A.4. Use surveys and sampling techniques to generate data and draw conclusions about large groups.</p>					

<p>4.A.1. Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode).</p> <ul style="list-style-type: none"> • Type of display most appropriate for given data • Box-and-whisker plot, upper quartile, lower quartile • Finding the median and mean (weighted average) using frequency data. • Effect of additional data on measures of central tendency • Calculators and computer used to record and process information 		<p>McDougal Littell Chapter 6 Can omit stem & leaf plots in lesson 6</p>			
<p>4.A.2. Make inferences and formulate and evaluate arguments based on displays and analysis of data.</p>					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: March (12 days)

Unit: 7. Systems of Linear Equations & Inequalities

NJCCCS: 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

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|---|
| 1. What kinds of problems can be modeled by a system of linear equations or inequalities? |
| 2. How can you solve a system of linear equations or inequalities? |

Enduring Understanding		Systems of linear equations or inequalities can be solved graphically, using substitution, or using linear combinations.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
3.C.2. Use patterns, relations, symbolic algebra, and linear functions to model situations. • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities		McDougal Littell Chapter 7 Omit lesson 6			
3.B.1. (HS) Understand relations and functions and select, convert flexibly among, and use various representations for them, including equations or inequalities, tables, and graphs.					
3.B.2. (HS) Analyze and explain the general properties and behavior of functions of one variable, using appropriate graphing technologies. • Intersecting points as solutions of systems of equations					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: April (12 days)

Unit: 8. Exponents & Exponential Functions

NJCCCS: 4.1 Numbers & Numerical Operations; 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

1. What kind of equation can be used to describe a pattern that grows by multiplying or shrinks by dividing?
2. How can we describe very large or very small numbers?
3. How can we perform computations with exponents efficiently?
4. What is the difference between a linear and an exponential function?

Enduring Understanding		Exponential functions grow or shrink through multiplication by a scale factor. The laws of exponents describe shortcuts for computing with exponents and are based on the basic definition of a power. Linear functions change through addition, while exponential ones change through multiplication. The basic shapes of the graphs of linear and exponential functions are different.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 8 pertain to these sets of numbers as well): <ul style="list-style-type: none"> • Rational numbers • Percents • Exponents • Numbers represented in scientific notation 		McDougal Littell Chapter 8			

1.A.2. Demonstrate a sense of the relative magnitudes of numbers.		McDougal Littell Chapter 8			
1.A.4. Compare and order numbers of all named types.					
1.A.5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.					
1.B.1. Use and explain procedures for performing calculations involving addition, subtraction, multiplication, division, and exponentiation with integers and all number types named above with: <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 					
1.B.2. Use exponentiation to find whole number powers of numbers.					
1.B.5. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.					
1.B.4. (HS) Understand and apply the laws of exponents to simplify expressions involving numbers raised to powers.					
3.A.1. Recognize, describe, extend, and create patterns involving whole numbers, rational numbers, and integers. <ul style="list-style-type: none"> • Descriptions using tables, verbal and symbolic rules, graphs, simple equations or expressions • Finite and infinite sequences • Geometric sequences (i.e., sequences generated by repeated multiplication by a fixed positive ratio, greater than 1 or less than 1) 					

3.A.2. Generating sequences by using calculators to repeatedly apply a formula		McDougal Littell Chapter 8			
3.B.2. Recognize and describe the difference between linear and exponential growth, using tables, graphs, and equations.					
3.B.4. (HS) Understand and compare the properties of classes of functions, including exponential, polynomial, rational, and trigonometric functions. <ul style="list-style-type: none"> • Linear vs. non-linear • Increasing/decreasing on an interval 					
3.C.1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.					
3.C.2. Use patterns, relations, symbolic algebra, and functions to model situations. <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities • Growth situations, such as population growth and compound interest, using recursive (e.g., NOW-NEXT) formulas (cf. science standard 5.5 and social studies standard 6.6) 					

CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: May (8 days)

Unit: 9. Quadratic Equations & Functions

NJCCCS: 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

1. How can we describe points on the number line that cannot be written as fractions of integers?
2. How can you simplify a square root?
3. What kinds of situations can be modeled using quadratic equations?
4. How do you solve a quadratic equation?

Enduring Understanding		Irrational numbers are points on the number line that cannot be represented as a fraction of two integers. Patterns that increase/decrease by a steadily increasing/decreasing amount can be represented by quadratic equations. Quadratic equations can be solved by graphing.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 8 pertain to these sets of numbers as well): <ul style="list-style-type: none"> • Rational numbers • Percents • Exponents • Roots 		McDougal Littell Chapter 9 Lessons 1-4 only			
1.A.2. Demonstrate a sense of the relative magnitudes of numbers.					

1.A.5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.		McDougal Littell Chapter 9 Lessons 1-4 only			
1.A.6. Recognize that repeating decimals correspond to fractions and determine their fractional equivalents. $5/7 = 0.714285714285 \dots = 0.\overline{714285}$					
1.A.7. Construct meanings for common irrational numbers, such as π (pi) and the square root of 2.					
1.B.1. Use and explain procedures for performing calculations involving addition, subtraction, multiplication, division, and exponentiation with integers and all number types named above with: <ul style="list-style-type: none"> • Pencil-and-paper • Mental math • Calculator 					
1.B.3. Find square and cube roots of numbers and understand the inverse nature of powers and roots.					
1.B.5. Understand and apply the standard algebraic order of operations, including appropriate use of parentheses.					
1.C.1. Estimate square and cube roots of numbers.					
1.C.2. Use equivalent representations of numbers such as fractions, decimals, and percents to facilitate estimation.					
1.C.3. Recognize the limitations of estimation and assess the amount of error resulting from estimation.					
2.A.2. Understand and apply the Pythagorean theorem.					

<p>3.A.1. Recognize, describe, extend, and create patterns involving whole numbers, rational numbers, and integers.</p> <ul style="list-style-type: none"> • Descriptions using tables, verbal and symbolic rules, graphs, simple equations or expressions • Finite and infinite sequences 		<p>McDougal Littell Chapter 9 Lessons 1-4 only</p>			
<p>3.A.2. Generating sequences by using calculators to repeatedly apply a formula</p>					
<p>3.B.3. (HS) Understand and perform transformations on commonly-used functions.</p> <ul style="list-style-type: none"> • Translations, reflections, dilations • Effects on linear and quadratic graphs of parameter changes in equations • Using graphing calculators or computers for more complex functions 					
<p>3.C.1. Analyze functional relationships to explain how a change in one quantity can result in a change in another, using pictures, graphs, charts, and equations.</p>					
<p>3.C.2. Use patterns, relations, symbolic algebra, and functions to model situations.</p> <ul style="list-style-type: none"> • Using concrete materials (manipulatives), tables, graphs, verbal rules, algebraic expressions/equations/inequalities 					

<p>3.C.1. (HS) Use functions to model real-world phenomena and solve problems that involve varying quantities.</p> <ul style="list-style-type: none">• Linear, quadratic• Expressions, equations and inequalities• Same function can model variety of phenomena		<p>McDougal Littell Chapter 9 Lessons 1-4 only</p>			
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CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: May (18 days)

Unit: 10. Polynomials & Factoring

NJCCCS: 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

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|---|
| 1. How can we add, subtract and multiply polynomials? |
| 2. How can polynomials be factored? |

Enduring Understanding		Operations on polynomials use the same principles as operations with whole numbers. Factoring a polynomial involves applying the distributive property.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
3.D.4. Create, evaluate, and simplify algebraic expressions involving variables. <ul style="list-style-type: none"> • Order of operations, including appropriate use of parentheses • Distributive property • Substitution of a number for a variable • Translation of a verbal phrase or sentence into an algebraic expression, equation, or inequality, and vice versa 		McDougal Littell Chapter 10			
3.D.1. (HS) Evaluate and simplify expressions. <ul style="list-style-type: none"> • Add and subtract polynomials • Multiply a polynomial by a monomial or binomial • Divide a polynomial by a monomial 					

<p>3.D.2. (HS) Select and use appropriate methods to solve equations and inequalities.</p> <ul style="list-style-type: none">• Linear equations – algebraically• Quadratic equations – factoring (when the coefficient of x^2 is 1) and using the quadratic formula• All types of equations using graphing, computer, and graphing calculator techniques		McDougal Littell Chapter 10			
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CURRICULUM MANAGEMENT SYSTEM

Course: Algebra 1

Grade Level: 8

Time Frame: May - June (8 days)

Unit: 11. Rational Equations & Functions

NJCCCS: 4.3 Patterns & Algebra

Related Standards: 4.5 Mathematical Processes

Essential Questions:

1. How can we solve problems involving ratio, proportion, and percent?

Enduring Understanding		Equations can be used to solve proportional reasoning problems.			
Unit Vocabulary Study					
Objectives/CPI	Activities/Strategies/Projects	Instructional Resources	Technology Integration	Interdisciplinary Focus	Assessment (Performance, Pre/Post, Daily, Weekly, Unit)
1.A.1. Extend understanding of the number system by constructing meanings for the following (unless otherwise noted, all indicators for grade 8 pertain to these sets of numbers as well): <ul style="list-style-type: none"> • Rational numbers • Percents 		McDougal Littell Chapter 11 Lessons 1-2 only			
1.A.2. Demonstrate a sense of the relative magnitudes of numbers.					
1.A.3. Understand and use ratios, proportions, and percents (including percents greater than 100 and less than 1) in a variety of situations.					
1.A.4. Compare and order numbers of all named types.					
1.A.5. Use whole numbers, fractions, decimals, and percents to represent equivalent forms of the same number.					
1.A.6. Recognize that repeating decimals correspond to fractions and					

determine their fractional equivalents. $5/7 = 0.714285714285 \dots = 0.\overline{714285}$					
1.B.4. Solve problems involving proportions and percents.					
1.C.2. Use equivalent representations of numbers such as fractions, decimals, and percents to facilitate estimation.					