

## Unit-Based Curriculum Map

### Pre Algebra 9<sup>th</sup> Grade

	Unit 1: Multiplication Facts	Unit 2: Perimeter & Area	Unit 3: Fractions
Essential Questions	1. Can students recall multiplication facts from memory?	1. What is perimeter and how is it calculated? 2. What is area and how is it calculated?	1. What are fractions? 2. How are mathematical operations performed on fractions?
Content	Multiplication products from 0 to 12.	Perimeter and area of quadrilaterals, triangles, circles, and irregular polygons.	Adding, subtracting, multiplying, and dividing fractions. Comparing fractions. Common denominators. Mixed numbers and improper fractions.
Skills	Memorizing, reciting, and finding products.	Identify various polygons and choose correct formula to find perimeter and area; Divide irregular polygons into regular ones; Calculate circumference and area of a circle. Solve work problems and draw corresponding figures.	Convert to common denominators; Add, subtract, multiply, and divide fractions; Convert mixed numbers to improper fractions; Analyze the value of fractions in order to compare them.
Assessments	Homework, Quizzes, Competitive Review game, Test	Homework, Quiz, Simulation project, Test	Homework, Classroom activities, Quizzes, Test
Activities / Resources	Drills, flash cards, Performance duels, Worksheets, Smartboard.	Number Power wkbk, Internet, Measuring activities, Findley's notes.	Number Power wkbk, Punchline wkbk, Findley's notes, Popsicle stick activity

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	Unit 4: Order of Operations	Unit 5: Data Analysis	Unit 6: Connections to Algebra
Essential Questions	How are mathematical expressions evaluated?	How are statistics gathered, expressed, and interpreted?	<ol style="list-style-type: none"> <li>1. What is a variable?</li> <li>2. How is a variable evaluated?</li> <li>3. What is the connection between life and algebra?</li> </ol>
Content	Priority pyramid, Definitions of operations, Substitution.	Data sets, Histograms and frequency tables, Bar, line, and Pie graphs, Venn diagrams, Central tendencies.	Algebraic expressions, Substitution, Translation.
Skills	Identify the operations in an expression; Understand and apply the priority pyramid. Simplify an expression.	Calculate mean, median, and mode; Read and interpret charts and graphs; Construct bar, line, and pie graphs; Interpret Venn diagrams.	Simplify an algebraic expression; Evaluate a variable for a given value; Translate English phrases and relationships into algebraic expressions.
Assessments	Homework, Quizzes, Competitive Review game, Test	Homework, Classroom activities, Quiz, Test	Homework, Table Feud game, Participation in class, Test
Activities / Resources	Ppt. competitive game, Response board activity, Number Power wkbk, Findley's notes.	Number Power wkbk, Opinion poll activity, InterActivate website. Smartboard.	McDougall Littell Algebra I Textbook, Findley's notes, MathO wkbk, Number Power wkbk.

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	Unit 7: Properties of Real Numbers	Unit 8: Solving Linear Equations	Unit 9: Graphing Linear Equations & Functions
Essential Questions	<ol style="list-style-type: none"> <li>1. How are numbers related?</li> <li>2. How are operations carried out between numbers?</li> </ol>	<ol style="list-style-type: none"> <li>1. How do you solve for a variable?</li> </ol>	<ol style="list-style-type: none"> <li>2. What is a Cartesian plane?</li> <li>3. How are points and lines graphed?</li> <li>4. What are important features of graphs?</li> </ol>
Content	The Real Number line, Addition and subtraction of real numbers, Multiplication and division of real numbers, The Distributive property, Absolute Value.	One step equations, Two step equations, Decimal equations, Formulas and Functions, Rates, Ratios, and Percents. Multi variable equations.	Coordinates and scatter plots, Graphing linear equations, The Slope of a line, Direct Variation, Solving Equations graphically.
Skills	Use number sliders to find sums and differences; Simplify products and quotients; Utilize the Distributive property to find products of groupings. Solve absolute value problems.	Solve a 1 and 2 step equation for a variable; Eliminate decimals in equations; Find rates, ratios, and percents; Solve for a specified variable in a multi-variable equation.	Plot points on a plane; Graph a linear equation using slope and intercepts; Calculate slope between two points; Solve equations for y; Write Direct and Indirect variation models.
Assessments	Homework, Response board performance, Quiz, Test	Homework, Quiz, Test	Homework, Slope/Intercept cards activity, Quiz, Test
Activities / Resources	Construct number sliders, McDougall Littell textbook, PowerPoint presentations, Findley's notes.	McDougall Littell Textbook, Response board activity, Findley's notes. Smartboard.	PowerPoints, McDougall Littell Textbook, Findley's notes, Graphing ppt.

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### Pre Algebra 9<sup>th</sup> Grade

	Unit 10: Writing Linear Equations	Unit 11: Polynomials	Unit 12: Probability
Essential Questions	How do you write a linear equation with specific criteria?	<ol style="list-style-type: none"> <li>1. What are polynomials?</li> <li>2. How are operations performed on polynomials?</li> </ol>	<ol style="list-style-type: none"> <li>1. What is probability?</li> <li>2. How is probability calculated?</li> </ol>
Content	Slope Intercept form, Writing equations given the slope and a point, Writing equations given two points, Standard form, Predicting with models.	Standard form, Degree, Classification, Operations on Polynomials.	Likelihood of events, Spinners, Areas, Dice, Cards, Chain rule, Multiple Trials.
Skills	Use slope intercept form to write equations; Calculate slope between two points; Write a linear equation using slope and a point; Calculate y-intercept when given a point on the line and slope; Write an equation in Standard form; Use linear model to predict real-life situations.	Determine degree and classification of polynomials; Add, subtract, multiply, and divide polynomials; Write polynomials of specified degree and classification.	Define probability; Calculate simple probabilities of a single trial; Calculate probability of outcomes of multiple trials; Implement the chain rule to determine probability of a sequence of events.
Assessments	Homework, Quizzes, Response board activity, Test	Homework, Quizzes, Classroom participation, Test	Homework, Participation in games and data collection, Quiz, Test
Activities / Resources	McDougall Littell Textbook, PowerPoint presentations, Findley's notes.	McDougall Littell Textbook, Findley's notes, Smartboard, Number Power wkbk.	McDougall Littell Textbook, Board and Card games, What Do You Expect wkbk.