

**MASHPEE MIDDLESCHOOL
MATH DEPARTMENT
CURRICULUM REVISION 2012
GRADE LEVEL 8**

COURSE NAME: Algebra I
STRANDS: Quantities / Creating Equations / Interpreting Functions / Linear, Quadratic, and Exponential Models
THEME/ESSENTIAL QUESTION What are Expressions, Equations, and Functions?
FOCUS QUESTIONS: How do you evaluate algebraic expressions and powers? How do you use the order of operations to evaluate an expression? How do you write an expression to represent a real-world situation? How do you write equations and inequalities? How can you use a problem solving plan to solve a problem? How do you represent functions as tables and rules? How do you represent functions as graphs? How do you determine whether a relation shown in a table or a graph is a function?

<u>STATE STANDARD/ COMMON CORE</u>	<u>LEARN EXP MATH PS</u>	<u>MATH CONCEPTS</u>	<u>SKILLS</u>	<u>INSTRUCTIONAL STRATEGIES</u>	<u>ASSESSMENT</u>	<u>RESOURCES/ MATERIALS</u>	<u>PACING GUIDE</u>
N.Q.1		Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	Evaluate Algebraic Expressions	Teacher Directed activities	Class work	McDougal-Littell Algebra I Textbook Lesson 1.1 pp. 2-7	1 Day
A.CED.1		Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Evaluate an Expression Read and Write Powers Evaluate Powers	Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary	Homework Check Exs. 10, 20, 32, 49, 51 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	Homework pp. 5-7 Exs. 1, 2, 4-14 even, 15, 16-22 even, 24, 25, 26-44 even, 45, 46, 49-54, 57-65	
A.REI.3		Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters	Evaluate a Power	Summarizing Applying Computational Skills		TI-84 Graphing Calculators	

A.CED.1		Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Apply Order of Operations	Teacher Directed activities	Class work	McDougal-Littell Algebra I Textbook Lesson 1.2 pp. 8-13	1 Day
A.REI.3		Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters	Evaluate Expressions Evaluate Expressions with Grouping Symbols Evaluate an Algebraic Expression	Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Homework Check Exs. 10, 16, 24, 35, 36 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	Homework pp. 10-12 Exs. 1, 2, 8-18 even, 20-39, 41-52 TI-84 Graphing Calculators	

<p>A.SSE.1</p> <p>A.CED.1</p> <p>N.Q.1</p>		<p>Interpret expressions that represent a quantity in terms of its context.</p> <p>a. Interpret parts of an expression, such as terms, factors, and coefficients.</p> <p>b. Interpret complicated expressions by viewing one or more of their parts as a single entity.</p> <p>Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p> <p>Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.</p>	<p>Translate Verbal Phrases into Expressions</p> <p>Write an Expression</p> <p>Use a Verbal Model to Write an Expression</p> <p>Find a Unit Rate</p> <p>Solve a Multi-step Problem</p>	<p>Teacher Directed activities</p> <p>Independent/small group work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 9, 17, 20, 24, 32</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 1.3 pp. 15-20</p> <p>Homework pp. 18-20 Exs. 1, 2, 4-12 even, 13-29, 32-37, 41-46</p> <p>TI-84 Graphing Calculators</p>	<p>1 Day</p>
--	--	---	--	--	---	---	--------------

A.CED.1		Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Write Equations and Inequalities Check Possible Solutions Use Mental Math to Solve an Equation Solve a Multi-step Problem Write and Check a Solution of an Inequality	Teacher Directed activities Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 8, 22, 33, 41, 42 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 1.4 pp. 21-26 Homework pp. 24-26 Exs. 1, 2, 7-11, 13-16, 21-28, 32-38, 41-46, 50-56 even Mixed Review Lesson 1.1-1.4 Pg. 27	1 Day
A.CED.1		Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Read a Problem and Make a Plan Solve a Problem and Look Back	Teacher Directed activities Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 4, 5, 9, 16, 17 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 1.5 pp. 28-34 Homework pp. 31-33 Exs. 1, 2, 4-13, 16-22, 24-32 TI-84 Graphing Calculators	1 Day

N.Q.3		Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	<p>Compare Precision of Measurements</p> <p>Identify Significant Digits</p> <p>Calculating with Significant Digits</p>	<p>Teacher Directed activities</p> <p>Independent/small group work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 3, 7, 13, 25, 36</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 1.5A pp. CC1-CC6</p> <p>Homework pp.CC4-CC6 Exs. 1, 2, 3-31 odd, 33-36, 39-41, 43-49 odd, 50, 52-58</p> <p>TI-84 Graphing Calculators</p>	1 Day
A.CED.2		Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	<p>Identify the Domain and Range of a Function</p> <p>Identify a Function</p> <p>Make a Table for a Function</p> <p>Write a Function Rule</p>	<p>Teacher Directed activities</p> <p>Independent/small group work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 4, 7, 16, 21, 24</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 1.6 pp. 35-41</p> <p>Homework pp. 38-40 Exs. 1, 2, 4, 5, 7-28, 30-36</p> <p>TI-84 Graphing Calculators</p> <p>TI-84 Activity Pg. 41 Make a Table</p>	1 Day
A.CED.3		Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.	<p>Write a Function Rule</p> <p>Write a Function Rule for a Real-world Situation.</p>				
F.IF.1		Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. The graph of f is the graph of the equation $y=f(x)$.					

S.ID.6		Represent data on two quantitative variables on a scatter plot, and describe how the variables are related	Collect Data and Make a Scatter Plot	Teacher Directed activities Independent/small group work	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Before Lesson 1.7 Pg. 42 Exs. 1-3	½ Day
F.IF.1		Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. The graph of f is the graph of the equation $y=f(x)$.					
F.IF.4		For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	Graph a Function Write a Function Rule for a Graph Analyze a Graph Represent a Function	Teacher Directed activities Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 5, 11, 16, 18, 19 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 1.7 pp. 43-48 Homework pp. 46-48 Exs. 1, 2, 4-13, 15-19, 21-30 TI-84 Graphing Calculators	1 Day
F.IF.5		Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.					
F.IF.7a		Graph linear and quadratic functions and show intercepts, maxima, and minima.					
F.LE.2		Construct linear and exponential					

		functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).					
F.IF.1		Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. The graph of f is the graph of the equation $y=f(x)$.	Determine whether a Relation is a Function Use the Vertical Line Test	Teacher Directed activities Independent/small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Extension After Lesson 1.7 pp. 49-50 Exs. 1-9 TI-84 Graphing Calculators Mixed Review Lesson 1.5-1.7 Pg. 51	1 Day
		<u>Vocabulary</u> <ul style="list-style-type: none"> • Variable (1.1) • Algebraic expression (1.1) • Power (1.1) • Exponent (1.1) • Base (1.1) • Order of operations (1.2) • Verbal model (1.3) • Rate (1.3) • Unit rate (1.3) • Equation (1.4) • Inequality (1.4) • Open sentence (1.4) • Solution of an equation (1.4) 	<ul style="list-style-type: none"> • Solution of an inequality (1.4) • Formula (1.5) • Function (1.6) • Input (1.6) • Output (1.6) • Domain (1.6) • Range (1.6) • Independent variable (1.6) • Dependent variable (1.6) 	Chapter 1 Review Chapter 1 Assessment Chapter 1 Alternative Assessment	McDougal-Littell Algebra I Textbook Chapter Review pp. 53-56 Exs. 1-40 Chapter 1 Exam Exam View CD Pre-made Assessment Level C Exam View CD Pre-made Alternative	½ Day 1 Day <u>Total</u> 11 Days	

**MASHPEE MIDDLESCHOOL
MATH DEPARTMENT
CURRICULUM REVISION 2012
GRADE LEVEL 8**

COURSE NAME: Algebra I
STRANDS: Quantities / Interpreting Categorical and Quantitative Data / Conditional Probability and the Rules of Probability / Using Probability to Make Decisions / Making Inferences and Justifying Conclusions
THEME/ESSENTIAL QUESTION What is Probability and Data Analysis?
FOCUS QUESTIONS: How do you find the probability of an event? How do you use the formula for permutations? How do you use combinations to count possibilities? How do you find the probability of compound events? How do you identify populations and sampling methods? How do you compare measures of central tendency and dispersion? How do you find a marginal frequency in a two-way frequency table? How do you make stem-and-leaf plots and histograms? How do you make and interpret box-and-whisker plots?

<u>STATE STANDARD/ COMMON CORE</u>	<u>LEARN EXP</u> MATH PS	<u>MATH CONCEPTS</u>	<u>SKILLS</u>	<u>INSTRUCTIONAL STRATEGIES</u>	<u>ASSESSMENT</u>	<u>RESOURCES/ MATERIALS</u>	<u>PACING GUIDE</u>
<p>Many of the standards addressed in Chapter 13 are from Model Geometry and Model Algebra II. While the Statistics and Probability standards from Model Algebra I are included, the other sections of the chapter will be taught in order to give the student a solid statistics and probability foundation.</p>							
Intro to Probability		What is the chance that you would select the initials of a student in your class from a bag of letters?	Perform an Experiment	Teacher Directed Activities Independent/Small Group Work	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Before Lesson 13.1 Pg. 842 Exs. 1-3	½ Day

S.ID.5		Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	Find a Sample Space Find a Theoretical Probability Find the Odds	Teacher Directed Activities Independent/Small group work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 5, 9, 12, 19, 21 Formative Assessment	McDougal-Littell Algebra I Textbook Lesson 13.1 pp. 843-848 Homework pp. 846-848 Exs. 1, 2-12 even, 13-17, 19-22, 24-26 TI-84 Graphing Calculators	1 Day
S.CP.1		Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).					
S.CP.4		Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade.					
S.MD.7		Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).					

Intro to Permutations			<p>Count Permutations</p> <p>Use a Permutations Formula</p> <p>Find a Probability Using Permutations</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 8, 15, 24, 33, 35</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 13.2 pp. 851-855</p> <p>Homework pp. 853-855 Day 1 Exs. 1-19 Day 2 Exs. 22-30, 32-38, 40-43</p> <p>TI-84 Graphing Calculators</p>	2 Days
S.CP.9		Use permutations and combinations to compute probabilities of compound events and solve problems.	<p>Count Combinations</p> <p>Use the Combinations Formula</p> <p>Find a Probability Using Combinations</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 4, 10, 17, 24, 25</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 13.3 pp. 856-859</p> <p>Homework pp. 858-859 Exs. 1-5, 6-14 even, 15-20, 23-26, 28-33</p> <p>TI-84 Graphing Calculators</p>	1 Day

Continued Work on Permutations and Combinations		How can you find combinations and permutations using a graphing calculator?	Find the Number of Combinations Find the Number of Permutations	Independent/Small Group Work Activate Prior Knowledge Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook After Lesson 13.3 pp. 860 Exs. 1-9	½ Day
S.CP.1		Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”). Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A , and the conditional probability of B given A is the same as the probability of B . Find the conditional probability of A given B as the fraction of B 's		Teacher Directed Activities Independent/Small Group Work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 5, 11, 23, 24, 25 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 13.4 pp. 861-867 Homework pp. 864-867 Day 1 Exs. 1, 2, 5-8, 18, 19, 30-34 Day 2 Exs. 11-17, 20, 22-26, 28, 29 TI-84 Graphing Calculators Mixed Review Lessons 13.1-13.4 Pg. 870	2 Days
S.CP.2							
S.CP.3							
S.CP.6							

S.CP.7	outcomes that also belong to A , and interpret the answer in terms of the model.						
S.CP.8	Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.						
S.CP.9	Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model.						
	Use permutations and combinations to compute probabilities of compound events and solve problems.						
Intro to Investigating Samples	How well do different samples represent a situation?	Select a Sample	Teacher Directed Activities Independent/Small Group Work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Before Lesson 13.5 pp. CC36 Class work pp. CC36 Exs. 1-3 TI-84 Graphing Calculators	½ Day	

S.IC.1		Understand statistics as a process for making inferences about population parameters based on a random sample from that population.	Classify a Sampling Method	Teacher Directed Activities	Class work	McDougal-Littell Algebra I Textbook Lesson 13.5 pp. 871-874	1 Day
S.IC.3		Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	Identify a Potentially Biased Sample	Independent/Small Group Work	Homework Check Exs. 5, 8, 10, 14, 15	Formative Assessment	
S.MD.6		Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	Identify Potentially Biased Questions	Activate Prior Knowledge	Review Mathematical Vocabulary	Summative Assessment (Chapter Test and Chapter Quizzes)	Homework pp. 873-874 Exs. 1, 2, 4-11, 13-17, 19-27 TI-84 Graphing Calculators
				Summarizing			
				Applying Computational Skills			
S.ID.2		Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Compare Measures of Central Tendency	Teacher Directed Activities	Class work	McDougal-Littell Algebra I Textbook Lesson 13.6 pp. 875-878	1 Day
S.ID.3		Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Compare Measures of Dispersion	Independent/Small Group Work	Homework Check Exs. 6, 14, 16, 20, 21	Formative Assessment	
				Activate Prior Knowledge		Summative Assessment (Chapter Test and Chapter Quizzes)	Homework pp. 877-878 Exs. 1, 2, 4-10, 13-17, 19-22, 24 TI-84 Graphing Calculators
				Review Mathematical Vocabulary			
				Summarizing			
				Applying Computational Skills			

S.ID.5		Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	<p>Read Information From a Two-Way Frequency Table</p> <p>Make a Two-Way Frequency Table</p> <p>Analyze a Situation in a Two-Way Table</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 4, 6, 7, 10, 13</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 13.6A pp. CC37-CC41</p> <p>Homework pp. CC39-CC41 Exs. 1-11, 13-16, 20-27</p> <p>TI-84 Graphing Calculators</p>	1 Day
S.ID.2 S.ID.3		<p>Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p>	<p>Find Variance and Standard Deviation</p> <p>Find Standard Deviation</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Formative Assessment</p>	<p>McDougal-Littell Algebra I Textbook Extension Lesson 13.6 pp. 879-880</p> <p>Classwork pp. 880 Exs. 1-7</p> <p>TI-84 Graphing Calculators</p>	½ Day

S.ID.1		Represent data with plots on the real number line (dot plots, histograms, and box plots).	How Do You Represent Data in a Dot Plot?	Teacher Directed Activities Independent/Small Group Work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Before Lesson 13.7 Pg. CC42 Class work Pg. CC42 Exs. 1-6	½ Day
S.ID.1 S.ID.2 S.ID.3		Represent data with plots on the real number line (dot plots, histograms, and box plots). Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Make a Stem-and-Leaf Plot Interpret a Stem-and-Leaf Plot Make a Histogram	Teacher Directed Activities Independent/Small Group Work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 5, 12, 17, 18, 20 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 13.7 pp. 881-885 Homework pp. 883-885 Day 1 Exs. 1, 2, 4-9, 17, 20, 21 Day 2 Exs. 10-15, 18, 19, 23-27 TI-84 Graphing Calculators	2 Days

Histogram Activity		How can you use a graphing calculator to make a histogram?	Make a Histogram	Independent/Small Group Work Activate Prior Knowledge Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook After Lesson 13.7 Pg. 886 Class work Exs. 1, 2	½ Day
S.ID.1 S.ID.2 S.ID.3		Represent data with plots on the real number line (dot plots, histograms, and box plots). Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Make a Box-and-Whisker Plot Interpret a Box-and-Whisker Plot	Teacher Directed Activities Independent/Small Group Work Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Class work Homework Check Exs. 5, 9, 12, 16, 18 Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	McDougal-Littell Algebra I Textbook Lesson 13.8 pp. 887-892 Homework pp. 889-892 Day 1 Exs. 1, 2, 4-7, 15, 16, 21, 22 Day 2 Exs. 8-13, 17-19, 23, 24 TI-84 Graphing Calculators	2 Days
N.Q.1		Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	How Can You Use a Graphing Calculator to Make a Box-and-Whisker Plot?	Independent/Small Group Work Activate Prior Knowledge Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook After Lesson 13.8 Pg. 893 Class work Exs. 1, 2	½ Day

S.ID.2		Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Choose a Display For Data	Independent/Small Group Work Activate Prior Knowledge Applying Computational Skills	Class work Formative Assessment	McDougal-Littell Algebra I Textbook Extension Lesson 13.8 Pg. CC44-CC45 Class work Exs. 1-6	½ Day	
		<u>Vocabulary</u> <ul style="list-style-type: none"> • Outcome (13.1) • Event (13.1) • Sample space (13.1) • Probability (13.1) • Odds (13.1) • Theoretical Probability (13.1) • Experimental Probability (13.1) • Simulation (pg. 849) • Permutation (13.2) • n factorial (13.2) • Combination (13.3) • Compound event (13.4) • Mutually exclusive events (13.4) • Overlapping events (13.4) • Independent events (13.4) • Dependent events (13.4) 		<ul style="list-style-type: none"> • Survey (13.5) • Population (13.5) • Sample (13.5) • Biased sample (13.5) • Biased question (13.5) • Measure of dispersion (13.6) • Range (13.6) • Mean absolute deviation (13.6) • Variance (pg. 879) • Standard deviation (pg. 879) • Stem-and-leaf plot (13.7) • Frequency (13.7) • Frequency table (13.7) • Histogram (13.7) • Box-and-whisker plot (13.8) • Quartile (13.8) • Interquartile range (13.8) • Outlier (13.8) • Mean, Median, Mode • Marginal frequency (13.6A) • Joint frequency (13.6A) 	Chapter 13 Review	Chapter 13 Assessment	Chapter 13 Exam Exam View CD Pre-made Assessment Level C	½ Day 1 Day <u>Total</u>
					Chapter 13 Alternative Assessment	Exam View CD Pre-made Alternative	18 ½ Days	

**MASHPEE MIDDLESCHOOL
MATH DEPARTMENT
CURRICULUM REVISION 2012
GRADE LEVEL 8**

COURSE NAME: Algebra I
STRANDS: Quantities: The Real Number System / Creating Equations / Reasoning with Equations and Inequalities
THEME/ESSENTIAL QUESTION How do you solve linear equations?
FOCUS QUESTIONS: How do you evaluate a square root and compare real numbers? How can you show that the sum of a rational number and an irrational number is irrational? How do you solve one-step equations using subtraction, addition, division, and multiplication? How do you solve two-step equations? How do you solve multi-step equations? How do you solve equations with variables on both sides? How do algebraic properties justify the steps in the solution of an equation? How do you find ratios and write and solve proportions? How do you solve proportions using cross products? How do you solve percent problems? How do you rewrite equations?

<u>STATE STANDARD/ COMMON CORE</u>	<u>LEARN EXP MATH PS</u>	<u>MATH CONCEPTS</u>	<u>SKILLS</u>	<u>INSTRUCTIONAL STRATEGIES</u>	<u>ASSESSMENT</u>	<u>RESOURCES/ MATERIALS</u>	<u>PACING GUIDE</u>
N.Q.1		Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	Find Square Roots Approximate a Square Root	Teacher Directed Activities Independent/Small Group Work	Class work Homework Check Exs. 10, 20, 26, 30, 48	McDougal-Littell Algebra I Textbook Lesson 2.7 pp. 110-116	1 Day
N.Q.2		Define appropriate quantities for the purpose of descriptive modeling.	Classify Numbers Graph and Order Real Numbers Rewrite a Conditional Statement in <i>if-then</i> Form.	Activate Prior Knowledge Review Mathematical Vocabulary Summarizing Applying Computational Skills	Formative Assessment Summative Assessment (Chapter Test and Chapter Quizzes)	Homework pp. 113-116 Exs. 1, 2, 7-14, 18-50 even TI-84 Graphing Calculators	

N.RN.3		Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	Sums of Rational Numbers	Teacher Directed Activities	Class work	McDougal-Littell Algebra I Textbook Lesson 3.1A pp. CC8-CC9	1 Day
A.REI.1		Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Sum of a Rational and Irrational Number	Independent/Small Group Work Activate Prior Knowledge	Formative Assessment	Homework Pg. CC9 Exs. 1, 2, 3	
			Product of a Nonzero Rational Number and an Irrational Number	Review Mathematical Vocabulary Summarizing Applying Computational Skills		TI-84 Graphing Calculators	
A.CED.1		Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Solve an Equation Using Subtraction	Teacher Directed Activities	Class work	McDougal-Littell Algebra I Textbook Before Lesson 3.1 pp. 132-133	½ Day
A.REI.1		Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Solve an Equation Using Division	Independent/Small Group Work Activate Prior Knowledge	Formative Assessment	Class work pp. 132-133 Exs. 1-22 (Selected)	
A.REI.3		Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.		Review Mathematical Vocabulary Summarizing Applying Computational Skills		TI-84 Graphing Calculators	

<p>A.CED.1</p> <p>A.REI.1</p> <p>A.REI.3</p>		<p>Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p> <p>Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</p> <p>Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p>	<p>Solve an Equation Using Subtraction</p> <p>Solve an Equation Using Addition</p> <p>Solve an Equation Using Division</p> <p>Solve an Equation Using Multiplication</p> <p>Solve an Equation by Multiplying by a Reciprocal</p> <p>Write and Solve an Equation</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Summarizing</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 10, 20, 26, 44, 55</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 3.1 pp. 134-140</p> <p>Homework pp. 137-140 Exs. 1, 2, 8-14 even, 15, 16, 20-28 even, 29, 30, 32-50 even, 54-61, 64-75 even</p> <p>TI-84 Graphing Calculators</p>	<p>1 Day</p>
<p>A.CED.1</p> <p>A.REI.3</p>		<p>Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</p> <p>Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p>	<p>Solve a Two-Step Equation</p> <p>Solve a Two-Step Equation by Combining Like Terms</p> <p>Find an Input of a Function</p> <p>Solve a Multi-Step Problem</p>	<p>Teacher Directed Activities</p> <p>Independent/Small Group Work</p> <p>Activate Prior Knowledge</p> <p>Review Mathematical Vocabulary</p> <p>Applying Computational Skills</p>	<p>Class work</p> <p>Homework Check Exs. 8, 14, 18, 25, 38</p> <p>Formative Assessment</p> <p>Summative Assessment (Chapter Test and Chapter Quizzes)</p>	<p>McDougal-Littell Algebra I Textbook Lesson 3.2 pp. 141-146</p> <p>Homework pp. 144-146 Exs. 1, 2, 6-20 even, 21-26, 30-36, 38-44, 46-60</p> <p>TI-84 Graphing Calculators</p>	<p>1 Day</p>