

**WAKEFIELD PUBLIC SCHOOLS
CURRICULUM MAP**

GRADE: 7 **SUBJECT:** Pre-Algebra **TEACHER:** Geraldine Carbone

MONTH	STANDARD	CONTENT (Essential Questions)	SKILLS	ASSESSMENT
SEPTEMBER OCTOBER	8N1,6,8 number sense (compare, order, absolute value) 8N10 (computation & estimation) 8N11, 12 (problem solving & operations)	-Number sense and operations with integers -Properties (commutative, identity, associative) -Order of operations -Graphing (number line, Cartesian plane) -What is an integer? -What are the rules for computation of integers? -What are the real life applications of integers?	- understand and use appropriate vocabulary (ie. integer, absolute value, positive...) - identify, order, compare integers ($<$, $>$) - find location of integers on a number line and graph - graph points on a Cartesian co-ordinate plane (all 4 quadrants) - apply rules for four operations (+, -, \times , \div) - examine and use absolute value - use properties to simplify expressions - review order of operations with whole numbers and apply to integers - provide value of integers in solving word problems - estimate answers for all computations	- tests/quizzes (multiple choice, open response, fill ins, problem solving) - homework (computation, problem solving) - calorie project - graph project - group activities (cards, chips) - card games (war, operations) - journal entries (summaries of major points, definitions)
NOVEMBER	8P2 evaluate expressions & equations 8P3 demonstrate identity property to simplify 8M3 apply formulas	- Patterns, relations, Algebra - What is an equation? - How can writing Algebraic equations and expressions help to solve problems with one and two variables? - How is an equation solved?	- evaluate Algebraic expressions - relate expressions to equations and formulas - identify and use inverse operations to solve equations with one and two variables - set up equations as strategy to solve word problems - compose real life word problems involving variables	- tests/quizzes (multiple choice, open ended, fill ins) - oral presentation of formulas generated from individual - student interviews - homework (student generated word problems) - journal entry (summary, word problems)

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DECEMBER	8N1 number sense- compare, order 8N10 estimate and compute 8N12 use of appropriate operations	<ul style="list-style-type: none"> - Number sense and operations with decimals - What is a decimal number? - How are decimal numbers related to other numbers? - What are real-life applications of decimal numbers? 	<ul style="list-style-type: none"> - review and identify decimals9place value, reading...) - introduce values of decimal numbers with negative sign - compare, order and graph positive and negative decimals on a number line - relate decimals to fractions and percents - compose and solve word problems - estimate answers - apply and use rules for four operations and order of operations - incorporate use and value of metric system in solving problems - apply skills to life applicable problems throughout unit using calculators when appropriate 	<ul style="list-style-type: none"> - tests/quizzes (multiple choice, open ended, word problems) - homework (computation and problem solving) - group activities - games (cards, relay races) - journal entry (summary of valid points) - metric activities (measuring using metric system)
JANUARY FEBRUARY	8D1 describe characteristics and limitations of data samples 8D3 find, describe, interpret appropriate measures of central tendency 8D4 use models to represent and compute probabilities	<p>Data analysis, Statistics, Probability</p> <ul style="list-style-type: none"> - How do we gather and organize data to aid in problem solving? - How do we apply range, median, mean, and mode to real life problems? - How is probability used to predict outcomes in problem solving? 	<ul style="list-style-type: none"> - review and use appropriate vocabulary (mean, mode, probability...) - collect data through student generated survey - select and use appropriate statistical methods to analyze data - incorporate uses of measures of central tendency for problem solving - discuss misuse and misrepresentation of statistical graphs - apply basic concepts of probability - use tree diagrams, tables, etc to compute probabilities - identify and use variety of strategies for problem solving (counting principle, factorials) 	<ul style="list-style-type: none"> - tests/quizzes (multiple choice, open ended, word problems) - homework (examples) - survey project - games (fair or not?) - journal entry (summarize fairness of played games) - game project (create original game)

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MARCH	8N5 apply number theory concepts 8N8, 10, 11, 12 estimate and compute using properties	Number sense and operations with fractions - What is a fraction? - How are fractions used in real life problem solving? - How are fractions related to other numbers?	- review fractions as part of a whole - review four operations .estimation, GCF, LCM, prime factorization - relate fractions to decimals and percents - identify and use rational numbers - compare, order and graph rational numbers - use properties (associative, commutative, identity, distributive) to simplify - compose and solve word problems using LCM, GCF, prime factors as problem solving strategies - celebrate Pi Day (3/14) - use fractions in algebraic algorithms and problem solving	- tests/quizzes (multiple choice, open response, fill ins) - homework (examples) - group activities (fraction bars) - pi day poster/project - journal entry (summaries) - women in history research project
APRIL	8N1 number sense with percents 8N3, 4 ratios and proportions 8M4 ratios and proportions to solve problems with similar figures 8N10 estimate & compute	Number sense and operations with ratios, proportions, percents - How is a proportion used to solve real-life word problems? - Where are percents found in the world around us? - How are percents related to other numbers?	- review previous skills with fractions and decimals - relate them to ratios, %, proportions - demonstrate use of vertical % bars to solve problems - compute unit rates, scale factors, and rate of change for word problems - create and construct circle graphs to represent statistical data - examine ratios and use proportional thinking to solve problems - apply learned skills to life applicable problems throughout unit using calculators when appropriate - celebrate math education month	- tests/quizzes (multiple choice, open response, fill ins, word problems) - homework (examples) - circle graph project - journal entry (summary) - career research project

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MAY JUNE	8G1, 3 relationship between angles & interesting lines and angles & sides of polygons 8G5 use of tools to draw geometric figures 8G6 results of transformations 8M3 apply formulas 8M1 appropriate use of units of measure	Geometry and measurement - How is geometry reflected in our world? - How are geometric formulas used to solve problems in every day life? - What are the various forms of measurement and how can they be applied to daily life?	- understand and use appropriate vocabulary(angles, transversals, similar...) - analyze characteristics and properties of geometric shapes - apply previous learned skills with compass, protractor, and ruler to draw and measure figures - formulate and test conjectures - explore relationship between angles & sides and angles & intersecting angles - classify figures with congruence and similarity - apply appropriate formulas to find area and perimeter of parallelograms, trapezoids and circles - select and use appropriate unit of measure for measuring and labeling - predict transformations on unmarked or co-ordinate planes and draw same - use visualization, spatial reasoning, and geometric modeling to solve problems - convert units of measure within same system of measurement	- tests/quizzes(multiple choice, open response, fill ins) - homework (examples) - triangle construction project - journal entry (constructions) - end-of-year (open ended) project