



Applied Algebra Pacing Guide 2017-2018

Unit 1: Numbers and Number Sense <ul style="list-style-type: none">- Whole numbers (divisor, GCF, multiple, LCM, prime, composite)- Integer operations and real-world applications- Order of operations, including absolute value- Number patterns and beginning conjectures	10 days
Unit 2: Rational Numbers and Rational Number Sense <ul style="list-style-type: none">- What is a rational number?- Fractions, decimals, percents: operations and real-world applications- Rational number patterns and conjectures- Relative frequency	10 days
Unit 3: One-variable equations and inequalities <ul style="list-style-type: none">- What is the difference between an expression and an equation?- Write and solve one-variable linear equations – symbolic, verbal description- Write and solve one-variable linear inequalities – symbolic, verbal description- Think about it: Solve absolute value and basic quadratic equations	13 days
Pre-Unit 4: Families of Functions <ul style="list-style-type: none">- What is a function?- Function notation- Compare simple linear, exponential, quadratic functions (from verbal , table, graph, symbolic)	5 days
Unit 4: Linear Functions (verbal , table, graph, symbolic) <ul style="list-style-type: none">- What is a linear function?- How is slope calculated, and what does it represent?- Write linear functions (given verbal, table, graph, point/slope, 2 points, parallel, perpendicular)?- Solve a system of equations through a table of values, graphs	13 days
Unit 5: Linear Inequalities <ul style="list-style-type: none">- Graph linear inequalities (given verbal, symbolic)	5 days
Unit 6: Exponential Expressions and Equations <ul style="list-style-type: none">- Powers of common numbers – connect to real-life scenario- Evaluate exponential expressions- Solve basic exponential equations- <i>Note: this is Thanksgiving break</i>	10 days



Unit 7: Exponential Functions (verbal , table, graph, symbolic) <ul style="list-style-type: none">- Write exponential functions (given verbal , table, graph, symbolic)- Exponential growth and decay, including simple percents	11 days
Midterm exams (2 review days) and Winter Break	
Unit 8: Univariate Statistics <ul style="list-style-type: none">- Measures of center and spread- Data distributions and outliers- Histograms and box plots- Normal distribution	7 days
Unit 9: Rational exponents and radical expressions (simple) <ul style="list-style-type: none">- Connect rational exponents to radical expressions- Simplify radical expressions (square root as a start)- Introduce imaginary numbers and simplify complex number expressions	10 days
Unit 10: Polynomial expressions (with a focus on quadratics) <ul style="list-style-type: none">- Classify degree and function type- Operations on polynomial expressions: add, subtract, multiply- Divide: greatest common factor, then factoring quadratics when $a=1$	12 days
Unit 11: Quadratic functions and equations (when leading coefficient equals 1) <ul style="list-style-type: none">- Given a quadratic function, complete a table of values and graph- Given a quadratic function in standard form, find y-intercept, axis of symmetry, vertex, and graph- Given a quadratic function in vertex form, find the vertex, axis of symmetry, and graph- Given a quadratic function in intercept form, find the zeros, axis of symmetry, and graph- Connect zeros of the function to solve a quadratic equation- Include scenarios (projectile, area patterns)	18 days
Unit 12: Quadratic equations (when leading coefficient equals 1) <ul style="list-style-type: none">- Square root method- Complete the square- Factor and use zero product property- Quadratic formula	19 days
Unit 13: Connections among linear, quadratic, exponential functions <ul style="list-style-type: none">- Similarities and differences among the types of functions- Revisit solve and graph each type of function- Revisit scenarios that each type exhibit- Sequences (if time permits)	12 days