

Pre Algebra

Course Curriculum

FALL SESSION (SEP - DEC) - 12 Classes	
Units	Topics
Unit 1A	<p><i>Chapter 1: Family of Numbers</i></p> <ul style="list-style-type: none"> ● Family of Numbers ● Important Divisibility Rules ● Prime Factorization ● The Rats! Rational Numbers ● Important Factors <p><i>Chapter 2: Working With Integers</i></p> <ul style="list-style-type: none"> ● Addition of Integers ● Absolute Value ● Adding Positive and Negative Integers
Unit 1B	<p><i>Chapter 2: Working With Integers (Continued)</i></p> <ul style="list-style-type: none"> ● Subtraction of Integers ● Multiplication and Division of Integers ● Working With Exponents <p><i>Chapter 3: Working With Rational Numbers</i></p> <ul style="list-style-type: none"> ● Adding and Subtracting Rational Numbers ● Working With Different Denominators ● Multiplication and Division of Positive and Negative Rationals ● Order of Operations ● Understanding Why Order of Operations Is Important
Unit 1C	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 1D	<p><i>Chapter 4: Ratio, Proportion, and Percent</i></p> <ul style="list-style-type: none"> ● Converting Fractions to Decimals and Terminating ● Decimals to Fractions ● Common Fractions/Decimals ● How to Tell if a Fraction Terminates or Repeats ● Ratio, Rate, and Unit Rate

	<ul style="list-style-type: none"> • Proportions • Scale Drawings
Unit 1E	<p>Chapter 4: Ratio, Proportion, and Percent (continued)</p> <ul style="list-style-type: none"> • Understanding Percent • Working With Percent <p>Chapter 5: Percent Applications</p> <ul style="list-style-type: none"> • Going Shopping- Tax and Tips • Percent Increase and Decrease • Understanding Simple Interest vs Compound Interest
Unit 1F	Homework Review, 1 on 1 with Teacher, Bi-Weekly Test
Unit 2A	<p>Chapter 6: Algebraic Expressions</p> <ul style="list-style-type: none"> • Expression vs Equations • Evaluating Expressions • Translating Expressions • Understanding "Less," "Less Than," and "From"
Unit 2B	<p>Chapter 6: Algebraic Expressions (continued)</p> <ul style="list-style-type: none"> • Polynomials • Understanding "Like Terms" • Subtracting Polynomials • Multiplication of Monomials - Exploring Exponent Rules • Thinking More About Monomials • Powers
Unit 2C	Homework Review, 1 on 1 with Teacher, Bi-Weekly Test
Unit 2D	<p>Chapter 6: Algebraic Expressions (continued)</p> <ul style="list-style-type: none"> • Division of Monomials • Understanding Negative Powers • Scientific Notation • Using Scientific Notation to Simplify
Unit 2E	<p>Chapter 7: Equations and Solving Word Problems</p> <ul style="list-style-type: none"> • Properties of Real Numbers (Part 1) • Properties of Real Numbers (Part 2) • Properties of Equality • Solving Algebra Equations
Unit 2F	Homework Review, 1 on 1 with Teacher, Bi-Weekly Test

WINTER SESSIONS (JAN - MAR) - 12 Classes	
Unit 3A	<p><i>Chapter 7: Equations and Solving Word Problems (continued)</i></p> <ul style="list-style-type: none"> ● Step 4: Using the Additive Inverse ● Step 5: Using the Multiplicative Inverse ● Solving Two Step Equations ● Solving Word Problems Using Equations
Unit 3B	<p><i>Chapter 7: Equations and Solving Word Problems (continued)</i></p> <ul style="list-style-type: none"> ● Steps 3, 4, and 5: Moving Variable Terms to the Same Side ● Steps 2-5: Combining Like Terms on Each Side ● Steps 1-5: Using All the Steps to Solve Equations ● Consecutive Integer Problems ● Thinking More About Equations
Unit 3C	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 3D	<p><i>Chapter 8: Inequalities and Applications</i></p> <ul style="list-style-type: none"> ● Graphing Inequalities ● Solving Inequalities ● How to Tell an Equation From an Inequality in Word Problems ● Understanding Compound Inequalities ● Graphing Compound Inequalities
Unit 3E	<p><i>Chapter 9: Understanding Square Roots and Irrational Numbers</i></p> <ul style="list-style-type: none"> ● Repeating Decimals Cannot Be Irrational Numbers ● Squaring and Square Roots ● Cube Roots and Other Roots ● Simplifying Square Roots
Unit 3F	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 4A	<p><i>Chapter 9: Understanding Square Roots and Irrational Numbers(continued)</i></p> <ul style="list-style-type: none"> ● A Look at Irrational PI ● The Pythagorean Theorem ● Chinese Proof of the Pythagorean Theorem
Unit 4B	<p><i>Chapter 10: Two Dimensional Geometry</i></p> <ul style="list-style-type: none"> ● Naming Angles ● Parallel Lines and Transversals ● Perimeter ● Polygons ● Angles of Triangles and Polygons ● Types of Triangles

Unit 4C	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 4D	<i>Chapter 10: Two Dimensional Geometry (continued)</i> <ul style="list-style-type: none"> • Areas of Parallelograms, Triangles, and Trapezoids • Area of Parallelograms • Area of Triangles • Area of Trapezoids • Using Algebra to Solve Geometry Problems • Finding the Circumference and Area of a Circle
Unit 4E	<i>Chapter 11: Understanding Volume and Surface Area</i> <ul style="list-style-type: none"> • Volume of Prisms • Volume of Pyramids • Volume of Cylinders and Cones • Surface Area • Surface Area of a Cone • Volume and Surface Area of a Sphere
Unit 4F	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
SPRING SESSION (APR - JUN) - 12 Classes	
Unit 5A	<i>Chapter 12: Graphing on the Coordinate Plane</i> <ul style="list-style-type: none"> • Graphing Linear Equations • Special Graphs • Using Slope and Y-Intercept to Graph Linear Equations • Types of Slopes • Finding Slope Given Two Points
Unit 5B	<i>Chapter 12: Graphing on the Coordinate Plane (continued)</i> <ul style="list-style-type: none"> • Writing an Equation Given Two Points • Graphs of Proportional Relationships • Systems of Equations
Unit 5C	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 5D	<i>Chapter 13: Transformations and Congruency</i> <ul style="list-style-type: none"> • Translations • Reflections • Rotations • Understanding Triangle Congruency (SSS, SAS, ASA)
Unit 5E	<i>Chapter 13: Transformations and Congruency (continued)</i> <ul style="list-style-type: none"> • How to Prove Triangles Are Congruent

	<ul style="list-style-type: none"> • Dilations • Similarity
Unit 5F	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 6A	<i>Chapter 14: Understanding Functions</i> <ul style="list-style-type: none"> • Understanding Functions • Quadratic Functions • Understanding Exponential Functions • Exponential Growth and Decay • Absolute Value Functions • Linear, Exponential, and Quadratic Functions Review
Unit 6B	<i>Chapter 15: Probability and Statistics</i> <ul style="list-style-type: none"> • Understanding OR and AND • Understanding Many-Stage Experiments • The Counting Principle
Unit 6C	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>
Unit 6D	<i>Chapter 15: Probability and Statistics (continued)</i> <ul style="list-style-type: none"> • Permutations • Understanding Permutations and Combinations • Empirical vs Theoretical Probability • Understanding Statistics • Measures of Central Tendency
Unit 6E	<i>Chapter 15: Probability and Statistics (continued)</i> <ul style="list-style-type: none"> • Quartiles and Percentiles • Frequency Tables and Histograms • Stem and Leaf Plots • Box and Whisker Plots • Understanding Surveys
Unit 6F	<i>Homework Review, 1 on 1 with Teacher, Bi-Weekly Test</i>