

First Trimester

Patterns & Problem Solving (2 weeks) Aug-Sept

Students review coordinate graphs, area, perimeter and order of operations. 5D (guess & check tables) are introduced as a way to see patterns and help write equations. Extend interpretations of graphs, collecting, organizing and analyzing data. Using graphs and tables to see proportional relationships and how to solve proportions.

Assessments: chapter 1 test

Variables & Proportions (2 weeks) Sept

Models are introduced for variable use in addition of polynomials. Students will write and simplify algebraic expressions. Introduce/review solving linear equations and proportions by simplifying or combining like terms. Work with algebra tiles as geometric models or representations of algebraic expressions and equations. Focus on recording work process.

Assessment: chapter 2 test

Graphs and Equations (3 weeks) Sept-Oct

Use patterns and equations to create tables to draw coordinate graphs that include linear and quadratic situations. Students use data patterns to generate equations and rules. Equation solving skills are extended to more complicated forms. Complete graphs are required.

Assessments: Quiz and chapter 3 test

Multiple Representations (3 weeks) Oct-Nov

Students make connections between graphs, patterns, tables and equations. They will extend their equation skills to solving systems graphically and algebraically. Describe growth rates and beginning figures or starting points with reference to $y = mx + b$. Graphing a line without producing an x,y table. Connecting the linear rules to their graphs and vice versa.

Assessments: Quiz, chapter 4 test and benchmark

Second Trimester

Systems of Equations (3 weeks) Nov

Students write and solve systems of equations using multiple methods: graphing, patterns, rules, tables. Consolidate all their equation solving skills from the beginning of the course. Solve and strategize how to solve systems algebraically and graphically. Review solving equations using fractions. End of volume 1.

Assessments: Quiz and chapter 5 test and checkpoint/midterm

Transformations & Similarity (3 weeks) Nov-Dec

Describe transformations on a coordinate graph system. Working with similar figures and shape and extended their knowledge from CC2, Math7. Extend their understanding of corresponding sides of similar shapes and solve problems involving similar shapes.

Assessments: Quiz and chapter 6 test

Slope & Association (Linear Relationships) (3 weeks) Dec-Jan

Formalize student understanding of a growth rate (slope) and use this with $y = mx + b$. Varied problem contexts include: speed, growth and density. Extend use of $y = mx + b$ to write equations of lines given a beginning point and growth rate (slope) or just two points. Introduce statistics with scatterplot graphs as well as identifying and describing association. Extend familiarity with circle graphs.

Assessments: Quiz and chapter 7 test

Exponents & Functions (4 weeks) Jan - Feb

Students are introduced to compound interest, scientific notation and exponential growth. Exponential rules including negative exponents are added to students' skills. Introduce function families: linear, quadratic, square root and absolute value. Students extend knowledge of the relationship between functions, graphs and tables.

Assessments: Quiz, chapter 8 test and benchmark

Third Trimester

Angles & the Pythagorean Theorem (2 weeks) Feb

Introduce angles and the Pythagorean Theorem. Students make connections between angle pair relationships as well as connections between real numbers, square roots and the Pythagorean Theorem and its proofs.

Assessments: Quiz and chapter 9 test

Surface Area & Volume (5 weeks) March - April

Simplify, multiply and divide algebraic equations when finding the unknown. They extend their equation skills to solve more complex applications involving cube roots, surface area, volumes of three dimensional shapes and their applications. Finish the unit with statistics: indirect measurement, and analyzing data to identify trends.

Assessments: Quiz and chapter 10 test

Puzzle Investigator Problem Projects (2 weeks) May

Students formalize concepts of functions and relations.

Assessment: Presentations. STAR review & STAR testing

MATH I Preview & Review (1 week) June

Connections with Algebraic & Geometric applications to come in high school.

Assessment: Foothill MATH I Readiness Test