

Course Description

Grade 7& 8 Pre-Algebra

Philosophy Statement: We believe the laws of mathematics are not arbitrary creations of man, but an absolute creation of God (Colossians 1:16-17). While gaining mathematical knowledge and developing essential life skills, students will recognize that God is a God of order and infinite wisdom.

Course Objective: The students will master the foundations for a solid mathematical understanding which will prepare them for a successful experience in high school mathematics. Algebraic and geometric concepts will be integrated into every unit and meaningful connections will be made to real-world problem solving.

Textbooks: Prentice Hall Mathematics
Algebra Readiness
Pearson
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Materials:

- Textbook
- Math Binder
- Practice and enrichment worksheets
- Manipulative materials
- Calculators (limited use)
- White boards

Time Allotment: 46 minutes per day, 5 days per week

Course Content:

- Patterns of numbers, operations, and variables in expressions
- Introduction to algebraic methods and the use of the distributive property in simplifying expressions and solving equations using addition, subtraction, multiplication and division
- Modeling integers: absolute value, addition, subtraction, multiplication, and division
- Solving equations: two-step, multi-step, and variables on both sides
- Using data and graphs in statistical analysis including an introduction to probability
- Number theory including rules of divisibility, factors, primes, greatest common factor, least common multiple, simplifying and comparing fractions, decimals, exponents, and scientific notation
- Fractions, decimals, and percents. Problem solving with fractions, decimals, and percents using addition, subtraction, multiplication, and division
- Ratio and Proportions with an emphasis on problem solving using percents, solving proportions, percent equations, and finding the percent of increase or decrease
- Real number system and inequalities. Graphing and solving multi-step inequalities. Working with square roots and the Pythagorean Theorem
- Geometry including the understanding of spatial concepts, congruence, similarity, transformations, and various measurements in geometry
- Graphing linear equations and linear inequalities
- Polynomials including adding, subtracting, and multiplying polynomials

Areas to be evaluated:

- Class participation
- Guided practice
- Homework assignments

- Tests
- Quizzes
- Group Projects (one per semester)
- Math Binder

Additional activities:

- Guest speakers (Math related careers)
- Math Counts/ Math Club
- Students will operate a food court one afternoon in May. They will work in groups of three to four students. They will sell home-made or store bought items. They will finance this project themselves, keep track of all expenses, advertise, and market their product.