[INSERT SCHOOL LOGO]

*The mission of Redeemer Christian School is to assist parents in the process of educating mature Christian young people whose character and conduct reflect Jesus Christ and bring glory to God.*

**CURRICULUM SCOPE AND SEQUENCE**

**Curricular Area:** Mathematics

**Application of School Mission Statement:** Learning mathematics from a biblical worldview fulfills the RCS mission statement in several ways. True mathematics is inherently linked to God’s created order in that the entire universe is structured with mathematical precision. True mathematics is a pursuit of truth and logical reasoning. Such an endeavor is only accomplished to its proper end under the Lordship of Jesus Christ. True mathematics results in ethical living in areas of respect for others, i.e., time management, financial faithfulness, a proper use of technology and other areas of loving neighbor as self.

**Application of School Vision Statement:** Learning mathematics from a biblical worldview accomplishes the RCS vision statement because it is established upon a redeeming faith, redeems time by providing Christian education, and redeems culture by providing productive Christian members of society.

**Purpose of mathematics at Redeemer Christian School:** is to assist parents in the process of educating mature Christian young people whose character and conduct reflect Jesus Christ and bring glory to God.

**Biblical Truths Related to math:**

* God is transcends creation. Creation requires geometry. Creation is made up of material: “*It is he who sits above the circle of the earth, and its inhabitants are like grasshoppers, who stretches out the heavens like a curtain and spreads them out like a tent to dwell in*” (Isa. 40:22).
* God is sovereign over measurements: He “*made from one man every nation of mankind to live on all the face of the earth, having determined their appointed times and the boundaries of their habitation*” (Acts 17:26).
* God requires mathematics for corporate worship: “*Now on the eighth day he is to take two male lambs without defect, and a yearling ewe lamb without defect, and three-tenths of an ephah of fine flour mixed with oil for a grain offering, and one log of oil*” (Lev. 14:10).

**Philosophy of Teaching Mathematics at Redeemer Christian School:**

**Grade Levels, Overview, Topics/Units with Key Concepts, Standards, and Materials**

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| **Grade Level** | **Overview** | **Topics/Units with Key Concepts** | **Standards** | **Materials** |
| **K** | Number, Color, Shape & Pattern Recognition | Twelve Units | Recognition of key elements and conceptual understanding | Twelve PACE booklets |
| **1** | Basic Counting, Addition & Subtraction | Twelve Units | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets; Counting Block; Abacus |
| **2** | Continued addition, Subtraction, & shapes; money; measuring | Continues learning to add and subtract, to carry and borrow 2- and 3-digit numbers, solves word problems, and works addition and subtraction facts vertically and horizontally. Completes timed drills and oral drills. Learns to relate multiplication to addition. Counts and writes by twos, fives, and tens; counts and writes from 1–500; writes numbers in place values of 1s, 10s, and 100s; and writes numbers on a calendar. Recognizes and writes number words. Learns to identify odd and even numbers. Reviews telling time. Reviews numbers that are greater than and less than. Learns to relate cent signs to pennies, nickels, dimes, and quarters. Learns to measure objects in inches and centimeters, and compares equivalents for cups to pint, pints to quart, and quarts to gallon. Recognizes and constructs geometric shapes. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **3** | Continued addition & subtraction, multiplication; telling time; measurement; basics of division | Adds 3-digit to 3-digit numbers, subtracts 3-digit from 3-digit numbers, and solves word problems with carrying and borrowing. Learns multiplication facts 1–9 with timed drills and oral drills. Reviews numbers in place values of 1s, 10s, and 100s; writes numbers to count on a number line; reviews and writes on charts; and learns to use picture tables to determine height. Reviews telling time and learns half-hour, quarter-hour, and 5-minute increments. Learns Roman numerals. Reviews measurements of weight, liquid, and length; converts inches to feet, feet to yards; reads scales in pounds; and learns the abbreviations in., ft., and yd. Writes ordinals first through tenth. Learns to divide objects or sets into halves. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **4** | Continued multiplication & division; Roman Numerals; money; measurements | Learns additional multiplication facts;10 and 11 times tables, and simple division skills; identifies and uses relationships between operations, such as division as the inverse of multiplication, to solve problems. Matches word sentences with number sentences and reviews number words and symbols. Rounds numbers on a number line to the nearest 5 and 10. Reviews and learns Roman numerals 1–50 and word problems converting to numerals. Learns to borrow and subtract 3-digits minus 3-digits, checks by addition, and borrows and subtracts from 10s, 100s, and 1000s. Learns to use the terms addend, sum, minuend, subtrahend, difference, multiplier, multiplicand, and product to match correct numbers in problems. Learns fractions through shaded parts of a circle, learns equivalency in fractions, and adds and subtracts like fractions. Learns to add and carry to 10s, 100s, and 1000s—4-digits and 4-digits. Reviews and demonstrates understanding of basic money concepts and skills. Reviews converting inches to feet, feet to yards, and inches to yards; reading a scale in pounds; and converting cups to pints, pints to quarts, and quarts to gallons. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **5** | New terminology; fractions; Factors; Roman Numerals | Defines and identifies new math terms: quotient, dividend, numerator, and denominator. Uses addition, subtraction, division, and multiplication with fractions; identifies proper and improper fractions; and reduces fractions to lowest terms. Factors numbers from least to greatest, and finds the Greatest Common Factor (GCF) and the Least Common Denominator (LCD) of fractions. Recognizes the place value of each digit in numbers up to thousands. Learns to represent and compare whole numbers and decimals. Learns the commutative properties of addition and multiplication and estimation. Compares numbers, sentences, words, decimals, and fractions using > and < symbols. Defines and identifies prime numbers. References charts, pictographs, and line graphs. Writes Roman numerals 1–399. Learns basic geometry—points, lines, rays, and angles; identifies geometric shapes; identifies similar and congruent figures; and finds the volume, perimeter, and area of figures. Learns about probabilities and ratios. Processes simple unit conversions such as centimeters to meters within a system of measurement. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **6** | Advanced Basic Mathematics | Learns the properties of addition and multiplication—commutative, associative, identity, and zero. Works with exponents and is introduced to expanded notation using exponents. Rounds and estimates large numbers and works mental estimation problems. Learns factoring rules (divisibility rules); identifies prime numbers and composite numbers. Reviews fractions and fraction terms; adds, subtracts, multiplies, and divides fractions; changes fractions to decimals using long division; and converts fractions to percents. Reviews decimals; adds, subtracts, multiplies, and divides decimals; defines repeating and terminating decimals; and changes decimals to percents. Relates percents and decimals to fractions, learns common percents, changes percents to decimals, and finds percent of a number. Is introduced to integers. Learns order of operation. Learns the terms equations and inequalities when comparing number sentences (<, >, =). Defines a variable and solves equations (one variable) using inverse operations. Works with ratios and proportions, and uses proportions to solve problems. Finds the probability of an event, and expresses probability as a ratio. Uses critical thinking skills to solve word problems. Defines and interprets circle, line, bar, and double-line graphs. Builds geometric knowledge; measures angles; finds the perimeter, area, and volume; and defines the parts of a circle. Rounds money to find estimated costs and solves money problems. Compares English and metric measurements, and carries out conversions. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **7** | Basic Geometry; Daily Finance  | Reads, writes, and works with whole and mixed numbers, integers, and proper and improper fractions. Learns the proper mathematical terminology—dividend, multiplicand, product, simplify, minuend, quotient, numerator, and denominator; changes fractions and decimals to percents; finds the number when a percent is known; finds the mean, mode, median, range, and rank; and interprets graphs, stem and leaf plots, and box and whisker plots. Is introduced to business and consumer arithmetic—profit and loss, commission, discounts, bills and receipts, and invoices with discounts; ratios, proportions, and percents. Reviews geometric concepts and finds perimeter, circumference, and surface area. Learns Biblical principles of finance, budgeting, saving, investing, and bank services. Reviews English and metric units of length, volume, weight, and temperature. Reviews basic geometry concepts and symbols and uses a protractor and compass to find perimeter and area of shapes and solids. Is introduced to equations—variable, sets, and set notation; vocabulary; symbols; and word problems.  | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **8** | Continues Geometry | Reviews basic number theory and mathematical terms and operations including integers, fractions, decimals, and percents. Gains mastery of exponents and learns to simplify radicals and estimate the value of numbers that are not perfect squares. Solves one, two, and multistep equations and inequalities, including equations containing fractions and exponents. Expands his knowledge of ratios and proportions and uses them to solve application and word problems in similarity, scaling, and unit costs. Uses the Pythagorean Theorem. Uses measures of central tendency to analyze and interpret data and graphs. Expresses probability as ratios, decimals, and percents. Finds the number of permutations and combinations using factorial notation and combinations using Pascal’s Triangle. Reviews basic geometric concepts, symbols, shapes, and constructions, including translations, reflections, and rotations on a coordinate plane. Converts between the English and metric systems of measurement and Fahrenheit, Celsius, and Kelvin temperature scales. Expands his knowledge of business and consumer mathematics—sales, profit and loss, simple and compound interest, interest payments on loans, property tax, and life and auto insurance. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **9** | Algebra I | Monomial and polynomial expressions. Algebraic addition, subtraction, multiplication, and division. Complex fractions: reducing, simplifying, and solving word problems. Algebraic graphs—linear equations, consistent, inconsistent, and dependent in word problems. Quadratic equations, factoring, positive and negative numbers, averages, percents, interest, ratios, and proportions, and translating word problems to algebraic equations. The Pythagorean Theorem. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **10** | Geometry | To reason logically and systematically. Properties and theorems and how to use them for solving problems—converse and construction, parallelograms, tangency, exterior angle; Hinge, Pythagorean, and regular polygon theorems. Types of shapes, angles, arcs, and chords, and learns to find the circumference and area. Tangents, secants—angles formed and intersecting within a circle. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **11** | Algebra II | Real number axioms and applications. Radicals and complex numbers. Fractions and operations, equations and decimals. Equations—linear and graphs, quadratic solutions, relations and polynomial functions. Arithmetic and geometric sequences and series, and sentences with one variable. Multiplication of polynomials, factoring monomials, squares, groups, and open sentences. Computations, exponential functions, logarithms, and antilogarithms; and permutations, combinations, binomial expansions, and probability. Matrices and their properties, determinants of equations, and systems of equations. | Pass each unit’s exam with a minimum grade of 80% | Twelve PACE booklets |
| **12** | Trigonometry | Find unknown measurements involving triangles. Determine the values of the trigonometric functions for any angle. Establish and use trigonometric identities. Graph trigonometric functions with and without a graphing calculator. Use the inverse trigonometry functions to find angle measures. Solve equations involving the trigonometric functions. Graph functions in the polar plane. Perform operations with complex numbers. Recognize how trigonometry models our world. | Pass each unit’s exam with a minimum grade of 80%Prerequisite: Algebra I, II, Geometry | Twelve PACE booklets |