



COURSE GUIDE

MATH



CALVERT
ACADEMY™

Math

KINDERGARTEN MATH

2 Semesters

Created to instill a strong math foundation, Kindergarten Math is full of fun learning activities. With a focus on the basics of elementary math, two large workbooks provide colorful instruction and practice in concepts such as counting, comparisons, number order, time, money, addition, and subtraction.

1ST GRADE MATH

2 Semesters

Creating a strong math foundation, 1st Grade Math is a fun program with a focus on the basics of elementary math. Ten colorful workbooks provide instruction and practice in number order, number words to 200, place value, addition, subtraction, time, fractions, and more. Skip counting, measurements, shapes, number sentences, and money also are studied.

2ND GRADE MATH

2 Semesters

Created to encourage a strong math foundation, 2nd Grade Math is filled with fun learning activities. Ten colorful units focus on the basics of elementary math, providing instruction in numbers to 1,000, operation symbols, measurements, shapes, rounding, addition, subtraction, time, estimation, and fractions.

3RD GRADE MATH

2 Semesters

3rd Grade Math is a full-year elementary course focusing on number skills and numerical literacy. Students gain solid experience with number theory and operations, learning how to apply these in measurement situations. The course also integrates geometric concepts and skills throughout the units, as well as introducing students to statistical concepts.

4TH GRADE MATH

2 Semesters

4th Grade Math is a full-year elementary course focusing on number skills and numerical literacy. Students gain solid experience with number theory and operations, including decimals and fractions. This course also integrates geometric concepts and skills throughout the units, teaches measurement skills, and introduces students to statistical concepts.

5TH GRADE MATH

2 Semesters

5th Grade Math is a full-year elementary course focusing on number skills and numerical literacy, and geometric concepts. Students gain solid experience with number theory and operations, including whole numbers, decimals, and fractions. The course also integrates mathematical practices throughout each unit, while introducing students to algebraic, statistical, and probability concepts.

6TH GRADE MATH

2 Semesters

This course begins by connecting ratio and rate to multiplication and division, allowing students to use ratio reasoning to solve a wide variety of problems. They further apply their understanding of multiplication and division to explain the standard procedure for dividing fractions. This course builds upon previous notions of the number system to now include the entire set of rational numbers.

7TH GRADE MATH

2 Semesters

This course begins with an in-depth study of proportional reasoning where students utilize concrete models such as bar diagrams and tables to increase and develop conceptual understanding of rates, ratios, proportions, and percentages. Students build on their proportional reasoning to solve problems about scale drawings by relating the corresponding lengths between objects. Students' number fluency and understanding of the rational number system are extended as they perform operations with signed rational numbers embedded in real-world contexts.

8TH GRADE MATH

2 Semesters

The course begins with a unit on input-output relationships that builds a foundation for learning about functions. Students make connections between verbal, numeric, algebraic, and graphical representations of relations, and apply this knowledge to create linear functions that can be used to model and solve mathematical and real-world problems. Technology is used to build deeper connections among representations. Students focus on formulating expressions and equations, including modeling an association in bivariate data with a linear equation, and writing and solving linear equations and systems of linear equations.

ALGEBRA I

2 Semesters

This full-year course focuses on five critical areas: relationships between quantities and reasoning with equations, linear and exponential relationships, descriptive statistics, expressions and equations, and quadratic functions and modeling. This course builds on the foundation set in middle grades by deepening students' understanding of linear and exponential functions, and developing fluency in writing and solving one-variable equations and inequalities. Students interpret, analyze, compare, and contrast functions that are represented numerically, tabularly, graphically, and algebraically.

ALGEBRA II

2 Semesters

This course focuses on functions, polynomials, periodic phenomena, and collecting and analyzing data. Students begin with a review of linear and quadratic functions, to solidify a foundation for learning these new functions. Students will make connections between verbal, numeric, algebraic, and graphical representations of functions and apply this knowledge as they create equations and inequalities that can be used to model and solve mathematical and real-world problems.

CONCEPTS IN PROBABILITY & STATISTICS

2 Semesters

This high-school course provides an alternative math credit for students who may not wish to pursue more advanced mathematics courses such as Algebra I and Pre-Calculus. It begins with an in-depth study of probability, with a focus on conceptual understanding. Students then move into an exploration of sampling and comparing populations.

FINANCIAL MATH

2 Semesters

Connecting practical mathematical concepts to personal and business settings, this course offers informative and highly useful lessons that challenge students to gain a deeper understanding of financial math. Relevant, project-based learning activities cover stimulating topics such as personal financial planning, budgeting and wise spending, banking, paying taxes, the importance of insurance, long-term investing, buying a house, consumer loans, economic principles, traveling abroad, starting a business, and analyzing business data.

GEOMETRY

2 Semesters

Based on plane Euclidean geometry, this rigorous full-year course addresses the critical areas of: congruence, proof, and constructions; similarity and trigonometry; circles; three-dimensional figures; and probability of compound events. Transformations and deductive reasoning are common threads throughout the course. Students build on their conceptual understanding of rigid transformations established in middle school as they formally define each and then, use them to prove theorems about lines, angles, and triangle congruency. Rigid transformations are also used to establish relationships between two-dimensional and three-dimensional figures.

MATHEMATICAL MODELS WITH APPLICATIONS

2 Semesters

Broadening and extending the mathematical knowledge and skills acquired in Algebra I, the primary purpose of this course is to use mathematics as a tool to model real-world phenomena students may encounter daily, such as finance and exponential models. Engaging lessons cover financial topics, including growth, smart money, saving, and installment loan models.

PERSONAL FINANCE

1 Semester

This one-semester elective prepares students to navigate personal finance with confidence. The course opens with a study of what it means to be financially responsible, engaging students in budgeting, planning, and being a smart consumer. Students learn about the relationship between education, employment, income, and net worth. Students then broaden their study to include banking, spending, investing, and other money management concepts before exploring credit and debt.

PRE-ALGEBRA

2 Semesters

This full-year course is designed for students who have completed a middle school mathematics sequence but are not yet Algebra-ready. This course reviews key algebra readiness skills from the middle grades and introduces basic Algebra I work with appropriate support. Students revisit concepts in number and operations, expressions and equations, ratio and proportion, and basic functions. By the end of the course, students are ready to begin a more formal high school Algebra I study.

PRE-CALCULUS

2 Semesters

Designed to follow Algebra II, this rigorous full-year course builds upon students understanding of various aspects of functions: graphing, composition, inverses, modeling, systems, and inequalities. Students expand their knowledge of trigonometric functions to include graphs of reciprocal functions, and they apply trigonometry to a variety of real-world problems. Students prove trigonometric identities and use them to solve equations.

STATISTICS

2 Semesters

This rigorous full-year course engages students in the study of statistics. The course covers statistical concepts and includes interactive activities and projects that encourage higher-order thinking skills. Major topics of study include exploring one- and two-variable data, sampling, experimentation, probability, sampling distributions, and statistical inference. These topics are organized into three big ideas: variation and distribution, patterns and uncertainty, and data-based predictions, decisions, and conclusions.

In this one-semester course, students use their geometry and algebra skills to begin their study of trigonometry. Students will be required to express understanding using qualitative, quantitative, algebraic, and graphing skills. This course begins with a quick overview of right triangle relationships before introducing trigonometric functions and their applications. Students explore angles and radian measures, circular trigonometry, and the unit circle.



