

# SREB Ready

## Ready for High School Math

This course emphasizes the understanding of math concepts, as opposed to memorizing procedures. In Ready for High School Math, students come to understand why a certain formula or method is used to solve a problem. By engaging students in real-world applications, Ready for High School Math develops the critical-thinking skills that students need throughout their high school studies. The course has eight units, culminating in a capstone project that emphasizes the synthesis of concepts.



### Unit 1/2: The Number System

This introductory unit encourages a deeper understanding of order, comparison and computation of fractions through the exploration of different fraction models. Students will reflect upon which model works best to represent different situations and create connections between those models. This unit also introduces students to the general approach to instruction and modes of thinking and questioning they will encounter in the remainder of the course.

#### Unit 1: The Number System

This unit solidifies students' understanding of the relationships among fractions, decimals and percents. The unit introduces students to scientific notation and irrational numbers. Students explore the context of scientific notation and the forms of numbers used in solving math problems.

#### Unit 2: Ratio and Proportional Relationships

This unit solidifies students' understanding of ratios and proportionality in order to solve single and multistep problems. Students explore similar figures and how to use equations to represent proportional situations. They make connections between unit rates and the slope of a line, and they explore how scaled drawings assist in problem solving.

#### Unit 3: Probability and One-Variable Statistics

This unit solidifies students' understanding of simple probability and one-variable statistics, including but not limited to describing distributions, sampling and statistical measures. Students explore ways mathematics can provide models to interpret data, make predictions and better understand the world. The limitations of statistics are discussed.

### Unit 4: Expression, Equations and Inequalities

This unit solidifies students' understanding of the structure of expressions and solving equations. Illustrations, drawings and models are used to represent and solve equations and inequalities, helping to develop understanding of acceptable solutions. Students explore the relationships between properties of equations and algebraic expressions.

### Unit 5: Geometry

This unit teaches students how to draw, translate and describe geometrical figures, understand congruence, use the Pythagorean Theorem and discuss relationships among different shapes in the context of real-world mathematical problems. Students explore how angles, parallel lines, congruent figures, triangles and quadrilaterals occur in real-life situations.

### Unit 6: Functions and Linear Relationships

Students identify the characteristics that distinguish functions from relations and identify functions as linear or nonlinear. Students investigate linear relationships in depth through tables, equations and graphs. Students develop linear models for real-world situations. Students relate slope as a rate of change and the y-intercept contextually to real-world problems.

### Unit 7: Systems of Equations

Students explore solutions to systems of equations, including graphical representation and numerical solutions. Students learn to write and use systems of equations and/or inequalities to solve real-world problems and estimate the solution for a system of equations by graphing.

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Contact us at [Ready@SREB.org](mailto:Ready@SREB.org) for more information about the Ready for High School or Ready for College courses.