



Course Name: Grade 7 Honors Math

School Year: 2021-2022

Course Purpose and Relevance:

The **primary content focal areas** in Grade 7 are number and operations; proportionality; expressions, equations, and relationships; and measurement and data.

The **process standards** weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Overview of Grade 7 Student Outcomes:

- The student uses concepts, algorithms, and properties of rational numbers to explore mathematical relationships and to describe increasingly complex situations.
- The student uses concepts of proportionality to explore, develop, and communicate mathematical relationships, including number, geometry and measurement, and statistics and probability.
- The student uses algebraic thinking to describe how a change in one quantity in a relationship results in a change in the other.
- The student connects verbal, numeric, graphic, and symbolic representations of relationships, including equations and inequalities.
- The student uses geometric properties and relationships, as well as spatial reasoning, to model and analyze situations and solve problems.
- The student communicates information about geometric figures or situations by quantifying attributes, generalize procedures from measurement experiences, and use the procedures to solve problems.
- The student uses appropriate statistics, representations of data, and reasoning to draw conclusions, evaluate arguments, and make recommendations.

Differentiation of Grade 7 Honors Mathematics

The curriculum for Grade 7 PreAP math includes the Grade 7 TEKS not taught in Grade 6 PreAP Math and Grade 8 TEKS. The Grade 7 PreAP math curriculum is a compacted and accelerated curriculum. Students must receive instruction and demonstrate mastery of Grade 6, Grade 7, and Grade 8 TEKS prior to enrolling in Algebra 1. The compacted and accelerated CCISD curriculum for Grade 6 PreAP math and Grade 7 PreAP math provides instruction in Grade 6, Grade 7, and Grade 8 math TEKS. Successful completion of Grade 6 PreAP and Grade 7 PreAP math courses will prepare students to be successful in PreAp Algebra 1 taken as 8th graders.



Grade 8 Student Outcomes taught in Grade 7 Honors math:

Note: Students will use graphing calculators during instruction on Grade 8 TEKS.

- Students will extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers,
- Students will approximate the value of an irrational number, including pi and square roots of numbers less than 225, and locate that rational number approximation on a number line,
- Students will convert between standard decimal notation and scientific notation,
- Students will order a set of real numbers arising from mathematical and real-world contexts.
- Students will use similar right triangles to develop an understanding that slope, m , given as the rate comparing the change in y -values to the change in x -values, $(y_2 - y_1) / (x_2 - x_1)$, is the same for any two points (x_1, y_1) and (x_2, y_2) on the same line.
- Students will graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship,
- Students will use data from a table or graph to determine the rate of change or slope and y -intercept in mathematical and real-world problem.
- Students will represent linear proportional situations and linear non-proportional situations from mathematical and real-world situations with tables, graphs, and equations in the form of $y = kx$ or $y = mx + b$, where $b \neq 0$.
- Students will solve problems involving direct variation.
- Students will model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.
- Students will understand the relationships about angles in triangles and angles created when parallel lines are cut by a transversal.
- Students will solve personal finance problems involving cost of loans and credit cards.
- Students will estimate costs of two-year and four-year college education.

Available Support for Student Learning:

Refer to the teacher's Course Syllabus for resources and course specific opportunities. The adopted textbook for Grade 7 Math is Houghton Mifflin Texas Go Math! The Grade 8 Texas Go Math! textbook is also used in Grade 8 PreAP math. Student textbook and/or digital version are available through the CCISD Student Portal.

Links to Course TEKS and RESOURCES FOR PARENTS on TEA website:

[Texas Knowledge and Skills for Grade 7 Mathematics](#)

[Texas Knowledge and Skills for Grade 8 Mathematics](#)

[Resources for Parents](#)



First Grading Period

Unit 1: Real Numbers

Unit 2: Equations and Inequalities

Unit 3: Linear Relationships

Second Grading Period

Unit 4: Proportions and Percent

Unit 5: Proportionality in Geometry

Semester Review and District Exam

Third Grading Period

Unit 6: Geometry of Planar Figures

Unit 7: Geometry of Solids

Unit 8: Proportionality and Probability

Fourth Grading Period

Unit 9: Measurement and Data

Unit 10: Personal Financial Literacy

STAAR Review and Grade 7 STAAR Test

Unit 11: Linear Non-Proportional Relationships