

ADVANCED ALGEBRA: CONCEPTS & CONNECTIONS



Welcome to Advanced Algebra: Concepts and Connections! Our goal is to help you understand the mathematics your child will be learning this year. This letter will help you better understand the mathematics expectations for 8th Grade and the supporting resources to provide ideas of how to work with your child at home throughout the school year. For additional support and questions, please contact your child's teacher at their school.

In Advanced Algebra: Concepts & Connections is the third required course in high school mathematics. The mathematical practice standard, **AA.MP**, will allow students to demonstrate skills and strategies needed to succeed in the course, including critical thinking, reasoning, effective collaboration and expression. Students should be able to use the content learned in this course to create a mathematical model to explain real-life phenomena. Students should be able to navigate fluently between mathematical representations that are presented numerically, algebraically, and graphically. Students should also be able to determine, identify, and use appropriate quantities for representing the situation.

MATHEMATICS CONCEPTS

MATHEMATICAL MODELING

Model real-life situations

PATTERNING & ALGEBRAIC REASONING

represent data with matrices and solve linear equations involving linear programming

GEOMETRIC REASONING

explore the unit circle and solve trigonometric equations

FUNCTIONAL & GRAPHICAL REASONING

use exponential and logarithmic functions to model real-life phenomena

use radical functions and expressions to model real-life phenomena

explore real and non-real numbers through quadratic functions; create, graph, and solve polynomial expressions

analyze the behaviors of rational functions

DATA & STATISTICAL REASONING

collect, critique, analyze, and interpret real-world data



How will your child engage when learning mathematics?

<u>Positive Mathematical Mindsets</u>	<u>Mathematical Practices</u>
<p>Fostering positive mathematical mindsets is essential to support your child's mathematical growth and development.</p>	<p>Mathematical practices are the habits of mind for learners to demonstrate as they are engaging in exploring the mathematics content.</p>
<u>Mathematical Modeling</u>	<u>Statistical Reasoning</u>
<p>Students will be expected to engage in the cycle for Mathematical Modeling in all learning tasks and activities to support student engagement at the highest level.</p>	<p>Students will be expected to engage in the four-part statistical problem-solving process K-12 by asking statistical questions, collecting data, analyzing data, and interpreting the results.</p>

Scan the QR code for more information and access to all links within this document.



It is critical that you form a partnership with the teacher to help your child grow to become a mathematically literate citizen. There are several resources you may find helpful as you support your child at home. Additional resources can be provided by your child's teacher. We hope you find this information helpful as you engage your child in meaningful work while they embark on the journey of learning mathematics.



STANDARDS DOCUMENT



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GEORGIA NUMERACY PROJECT TASKS & ACTIVITIES

Richard Woods, Georgia's School Superintendent

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