

# Georgia's K-12 Mathematics Standards Curriculum Map

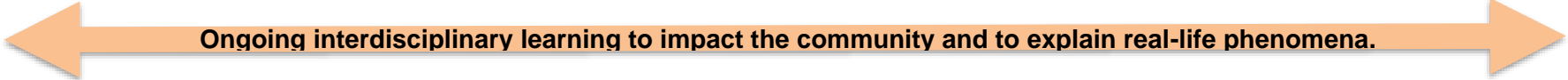
***Implementation beginning Fall 2023***

**ALGEBRA:  
CONCEPTS & CONNECTIONS**

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## CURRICULUM MAP

### Georgia's K-12 Mathematics Standards ALGEBRA: CONCEPTS & CONNECTIONS

Semester 1				Semester 2				
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9
Modeling Linear Functions	Analyzing Linear Inequalities	Investigating Rational and Irrational Numbers	Modeling and Analyzing Quadratic Functions	Modeling and Analyzing Exponential Expressions & Equations	Analyzing Exponential Functions	Investigating Data	Algebraic Connections to Geometric Concepts	Culminating Capstone Unit
Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	Interdisciplinary Connection	
<b>Traditional Schedule</b>								
20 Days	8 Days	8 Days	32 Days	15 Days	19 Days	14 Days	8 Days	8 Days
A.FGR.2 A.MM.1 A.MP.1-8	A.PAR.4 A.MM.1 A.MP.1-8	A.NR.5 A.MM.1 A.MP.1-8	A.PAR.6 A.FGR.7 A.MM.1 A.MP.1-8	A.PAR.8 A.MM.1 A.MP.1-8	A.FGR.9 A.MM.1 A.MP.1-8	A.DSR.10 A.MM.1 A.MP.1-8	A.GSR.3 A.MM.1 A.MP.1-8	All standards A.MM.1 A.MP.1-8
 <p><b>Ongoing interdisciplinary learning to impact the community and to explain real-life phenomena.</b></p>								
<p>The concepts presented in each unit are presented based on a logical, mathematical progression. Each unique unit in sequence builds upon the previous unit. The <a href="#">Framework for Statistical Reasoning</a>, <a href="#">Mathematical Modeling Framework</a>, and the <a href="#">K-12 Mathematical Practices</a> should be taught throughout the units.</p>								

Mathematical Practices (A.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.

**Key for Course Standards:** MP: Mathematical Practices, MM: Mathematical Modeling, NR: Numerical Reasoning, FGR: Functional & Graphical Reasoning, GSR: Geometric & Spatial Reasoning, PAR: Patterning & Algebraic Reasoning, DSR: Data & Statistical Reasoning

# ALGEBRA: CONCEPTS & CONNECTIONS

## Year-At-A-Glance

### Semester 1

Pacing Suggestion	Unit	Content Standards	Learning Objectives	
Ongoing Embedded Throughout All Units	<b>Mathematical Modeling</b> <i>When students model with mathematics, they develop a more engaging and deeper understanding of the world around them. Students who engage in mathematical modeling will not only be prepared for their chosen career but will also learn to make informed life decisions based on data and the models they create. For this reason, the modeling unit will be embedded throughout the course. See Mathematical Modeling Framework as an Instructional Support.</i>	A.MM.1 A.MP.1-8	A.MM.1.1 A.MM.1.2 A.MM.1.3 A.MM.1.4 A.MM.1.5	
<b>Traditional</b> 20 Days	<b>Unit 1: Modeling Linear Functions</b> <i>Students will construct and interpret arithmetic sequences as functions, algebraically and graphically, to model and explain real-life phenomena. They will use formal notation to represent linear functions and the key characteristics of graphs of linear functions, and informally compare linear and non-linear functions using parent graphs.</i>	A.FGR.2 A.MM.1 A.MP.1-8	A.FGR.2.1 A.FGR.2.2 A.FGR.2.3 A.FGR.2.4 A.FGR.2.5	A.MM.1.1 A.MM.1.2 A.MM.1.4 A.MM.1.5
<b>Traditional</b> 8 Days	<b>Unit 2: Analyzing Linear Inequalities</b> <i>Students will create, analyze, and solve linear inequalities in two variables and systems of linear inequalities to model real-life phenomena.</i>	A.PAR.4 A.MM.1 A.MP.1-8	A.PAR.4.1 A.PAR.4.2 A.PAR.4.3	A.MM.1.1 A.MM.1.4
<b>Traditional</b> 8 Days	<b>Unit 3: Investigating Rational and Irrational Numbers</b> <i>Students will investigate rational and irrational numbers and rewrite expressions involving square roots and cube roots. They should be able to use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots and cube roots.</i>	A.NR.5 A.MM.1 A.MP.1-8	A.NR.5.1 A.NR.5.2 A.MM.1.1 A.MM.1.2	A.MM.1.3 A.MM.1.4 A.MM.1.5
<b>Traditional</b> 32 Days	<b>Unit 4: Modeling and Analyzing Quadratic Functions</b> <i>Students will analyze quadratic functions. Students will (1) investigate key features of graphs; (2) solve quadratic equations by taking square roots, factoring (<math>x^2 + bx + c</math> AND <math>ax^2 + bx + c</math>), completing the square, and using the quadratic formula; (3) compare and contrast graphs in standard, vertex, and intercept forms. Students will only work with real number solutions.</i>	A.PAR.6 A.FGR.7 A.MM.1 A.MP.1-8	A.PAR.6.1 A.PAR.6.2 A.PAR.6.3 A.PAR.6.4 A.FGR.7.1 A.FGR.7.2 A.FGR.7.3 A.FGR.7.4 A.FGR.7.5	A.FGR.7.6 A.FGR.7.7 A.FGR.7.8 A.FGR.7.9 A.MM.1.1 A.MM.1.2 A.MM.1.4 A.MM.1.5

Mathematical Practices (A.MP.1- 8) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.















A.MM.1.1 - Explain contextual, mathematical problems using a mathematical model.

A.MM.1.2 - Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities contexts.

A.MM.1.4 - Use various mathematical representations and structures with this information to represent and solve real-life problems.

A.MM.1.5 - Define appropriate quantities for the purpose of descriptive modeling.

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