Cobb County School District

Algebra Teaching & Learning Framework

Semester 1					Semester 2				
Unit 1 5 weeks	**Unit 2** 2 weeks	**Unit 3** 2 weeks	**Unit 4A** 5 weeks	**Unit 4B** 4 weeks	**Unit 5** 3 weeks	**Unit 6** 5 weeks	**Unit 7** 4 weeks	**Unit 8** 3 weeks	**Unit 9** 3 weeks
Modeling Linear Functions A.FGR.2	**Analyzing Linear Inequalities A.PAR.4**	**Investigating Rational and Irrational Numbers A.NR.5**	**Modeling and Analyzing Quadratic Expressions & Equations A.PAR.6**	**Modeling and Analyzing Quadratic Functions A.FGR.7**	**Modeling and Analyzing Exponential Expressions & Equations A.PAR.8**	**Analyzing Exponential Functions & Comparing Functions A.FGR.9**	**Investigating Data A.DSR.10**	**Algebraic Connections to Geometric Concepts A.GSR.3**	**Culminating Capstone Unit**
A.FGR.2.1 (Arithmetic sequences) **A.FGR.2.2** (Construct and interpret linear functions) **A.FGR.2.3** (Domain and range) **A.FGR.2.4** (Function notation) **A.FGR.2.5** (Analyze linear and non-linear)	**A.PAR.4.1** (Create, solve, and graph linear inequalities) **A.PAR.4.2** (Constraints of linear inequalities) **A.PAR.4.3** (Systems of linear inequalities)	**A.NR.5.1** (Simplify radicals) **A.NR.5.2** (Explain irrational sums and products)	**A.PAR.6.1** (Interpret quadratic expressions) **A.PAR.6.2** (Rewrite quadratic expressions) **A.PAR.6.3** (Create and solve quadratic equations) **A.PAR.6.4** (Constraints of quadratic equations)	**A.FGR.7.1** (Build and evaluate functions) **A.FGR.7.2** (Transformations) **A.FGR.7.3** (Analyze characteristics of quadratic functions) **A.FGR.7.4** (Domain and range) **A.FGR.7.5** (Rewrite quadratic functions to find max/min) **A.FGR.7.6** (Create and graph quadratic functions) **A.FGR.7.7** (Average rate of change) **A.FGR.7.8** (Write a quadratic function for different properties) **A.FGR.7.9** (Compare functions represented differently)	**A.PAR.8.1** (Interpret exponential expressions) **A.PAR.8.2** (Create exponential equations in one variable) **A.PAR.8.3** (Create exponential equations in two variables) **A.PAR.8.4** (Constraints of exponential equations)	**A.FGR.9.1** (Build and evaluate functions) **A.FGR.9.2** (Graph and analyze characteristics of exponential functions) **A.FGR.9.3** (Transformations) **A.FGR.9.4** (Geometric sequences) **A.FGR.9.5** (Compare functions represented differently)	**A.DSR.10.1** (Compare center and variability with appropriate statistics) **A.DSR.10.2** (Interpret shape, center, and variability) **A.DSR.10.3** (Represent data on a scatter plot) **A.DSR.10.4** (Interpret slope and y-intercept of linear model) **A.DSR.10.5** (Line of best fit and r) **A.DSR.10.6** (Choose appropriate function from data) **A.DSR.10.7** (Correlation vs. Causation)	**A.GSR.3.1** (Solve problems with slope, parallel and perpendicular lines, area, and perimeter) **A.GSR.3.2** (Apply distance formula, midpoint formula, and slope to solve problems)	**All standards**

Units contain tasks that depend upon the concepts addressed in earlier units. Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tasks as possible in order to stress the natural connections that exist among mathematical topics.

The Framework for Statistical Reasoning, Mathematical Modeling Framework, and the K-12 Mathematical Practices should be taught throughout the units.

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

Algebra Teaching & Learning Framework

BLOCK

Unit 1 2.5 weeks	Unit 2 1 week	Unit 3 1 week	Unit 4A 2.5 weeks	Unit 4B 2 weeks	Unit 5 1.5 weeks	Unit 6 2.5 weeks	Unit 7 2 weeks	Unit 8 1.5 weeks	Unit 9 1.5 week
Modeling Linear Functions **A.FGR.2**	**Analyzing Linear Inequalities** **A.PAR.4**	**Investigating Rational and Irrational Numbers** **A.NR.5**	**Modeling and Analyzing Quadratic Expressions & Equations** **A.PAR.6**	**Modeling and Analyzing Quadratic Functions** **A.FGR.7**	**Modeling and Analyzing Exponential Expressions & Equations** **A.PAR.8**	**Analyzing Exponential Functions & Comparing Functions** **A.FGR.9**	**Investigating Data** **A.DSR.10**	**Algebraic Connections to Geometric Concepts** **A.GSR.3**	**Culminating Capstone Unit**
A.FGR.2.1 (Arithmetic sequences) **A.FGR.2.2** (Construct and interpret linear functions) **A.FGR.2.3** (Domain and range) **A.FGR.2.4** (Function notation) **A.FGR.2.5** (Analyze linear and non-linear)	**A.PAR.4.1** (Create, solve, and graph linear inequalities) **A.PAR.4.2** (Constraints of linear inequalities) **A.PAR.4.3** (Systems of linear inequalities)	**A.NR.5.1** (Simplify radicals) **A.NR.5.2** (Explain irrational sums and products)	**A.PAR.6.1** (Interpret quadratic expressions) **A.PAR.6.2** (Rewrite quadratic expressions) **A.PAR.6.3** (Create and solve quadratic equations) **A.PAR.6.4** (Constraints of quadratic equations)	**A.FGR.7.1** (Build and evaluate functions) **A.FGR.7.2** (Transformations) **A.FGR.7.3** (Analyze characteristics of quadratic functions) **A.FGR.7.4** (Domain and range) **A.FGR.7.5** (Rewrite quadratic functions to find max/min) **A.FGR.7.6** (Create and graph quadratic functions) **A.FGR.7.7** (Average rate of change) **A.FGR.7.8** (Write a quadratic function for different properties) **A.FGR.7.9** (Compare functions represented differently)	**A.PAR.8.1** (Interpret exponential expressions) **A.PAR.8.2** (Create exponential equations in one variable) **A.PAR.8.3** (Create exponential equations in two variables) **A.PAR.8.4** (Constraints of exponential equations)	**A.FGR.9.1** (Build and evaluate functions) **A.FGR.9.2** (Graph and analyze characteristics of exponential functions) **A.FGR.9.3** (Transformations) **A.FGR.9.4** (Geometric sequences) **A.FGR.9.5** (Compare functions represented differently)	**A.DSR.10.1** (Compare center and variability with appropriate statistics) **A.DSR.10.2** (Interpret shape, center, and variability) **A.DSR.10.3** (Represent data on a scatter plot) **A.DSR.10.4** (Interpret slope and y-intercept of linear model) **A.DSR.10.5** (Line of best fit and r) **A.DSR.10.6** (Choose appropriate function from data) **A.DSR.10.7** (Correlation vs. Causation)	**A.GSR.3.1** (Solve problems with slope, parallel and perpendicular lines, area, and perimeter) **A.GSR.3.2** (Apply distance formula, midpoint formula, and slope to solve problems)	**All standards**

Units contain tasks that depend upon the concepts addressed in earlier units. Mathematical standards are interwoven and should be addressed throughout the year in as many different units and tasks as possible in order to stress the natural connections that exist among mathematical topics.

The Framework for Statistical Reasoning, Mathematical Modeling Framework, and the K-12 Mathematical Practices should be taught throughout the units.

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