Cobb County School District

MATHEMATICS

Statistical Reasoning Teaching & Learning Framework

Semester 1			Semester 2		
Unit 1 5 weeks	**Unit 2** 5 weeks	**Unit 3** 8 weeks	**Unit 4** 9 weeks	**Unit 5** 7 weeks	**Unit 6** 2 weeks
Statistical Modeling **SR.MM.1**	**Statistics as a Problem-Solving Process and the Role of Questioning** **SR.DSR.2**	**Collecting/Considering Data and Types of Studies (including non-traditional data)** **SR.DSR.3**	**Analyzing Data and the Role of Distributions** **SR.DSR.4**	**Interpreting Results to Answer the Statistical Investigative Question** **SR.DSR.5**	**Exploring Culminating Capstone Unit**
SR.MM.1.1 (Explain contextual, mathematical problems using a mathematical model) **SR.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 the humanities) **SR.MM.1.3** (Using abstract and quantitative reasoning, make decisions about information and data from a real-life situation) **SR.MM.1.4** (Use various mathematical representations and structures with this information to represent and solve real-life problems)	**SR.DSR.2.1** (Formulate statistical investigative questions about a population using samples taken from the population) **SR.DSR.2.2** (Formulate comparative and associative statistical investigative questions for surveys, observational studies, and experiments to compare two or more groups or to investigate the association of two or more variables) **SR.DSR.2.3** (Formulate multivariable statistical investigative questions) **SR.DSR.2.4** (Formulate inferential statistical investigative questions regarding association and prediction)	**SR.DSR.3.1** (Apply and appropriate data-collection plan when collecting primary or secondary data for the statistical investigative question of interest) **SR.DSR.3.2** (Distinguish between surveys, observational studies and experiments) **SR.DSR.3.3** (Design sample surveys, experiments, and observational studies using accepted practices) **SR.DSR.3.4** (Distinguish between random selection and random assignment and identify their impact on conclusions) **SR.DSR.3.5** (Describe potential sources and effects of bias and confounding variables) **SR.DSR.3.6** (Describe and adhere to the ethical use of data) **SR.DSR.3.7** (Identify when data can be generalized to a target population)	**SR.DSR.4.1** (Summarize quantitative or categorical data using tables, graphical displays, and numerical summary statistics) **SR.DSR.4.2** (Summarize and describe relationships among multiple variables) **SR.DSR.4.3** (Use sampling distributions developed through simulation to describe the sample-to sample variability of sample statistics) **SR.DSR.4.4** (Use sampling distributions to compute simulated p-values) **SR.DSR.4.5** (Describe the relationship between two quantitative variables by interpreting correlation and LSRL) **SR.DSR.4.6** (Use simulations to investigate associations between two categorical variables and to compare groups)	**SR.DSR.5.1** (Use statistical evidence from analyses to answer the formulated statistical investigative questions) **SR.DSR.5.2** (Interpret the impact of outliers, missing values or erroneous values of the results) **SR.DSR.5.3** (Use and interpret the p-value to determine whether the estimate for a population characteristic is plausible) **SR.DSR.5.4** (Interpret a given margin of error associated with an estimate of a population characteristic) **SR.DSR.5.5** (Explain the impact of multiple variables on one another)	**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: MM: Mathematical Modeling DSR: Data & Statistical Reasoning

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Statistical Reasoning Teaching & Learning Framework

BLOCK

Unit 1 2.5 weeks	Unit 2 2.5 weeks	Unit 3 4 weeks	Unit 4 4.5 weeks	Unit 5 3.5 weeks	Unit 6 1 week
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