



Marietta City Schools
2023–2024 District Unit Planner

Statistical Reasoning

Unit title	Unit 2: Statistics as a Problem-Solving Process and the Role of Questioning	Unit duration (hours)	3-4 weeks
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GA DoE Standards

Standards

SR.DSR.2 Formulate statistical investigative questions of interest to students that can be answered with data.

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.MM.1 Apply mathematics to real-life situations; model real-life phenomena using mathematics.

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.

Concepts/Skills to support mastery of standards

- Formulate statistical & investigative questions
- Collect/consider data
- Analyze data
- Interpret results

Vocabulary

Analysis	Categorical Variable	Census	Collection of Data	Distribution	Interpretation
Interrogative Question	Mode (modal category)	Observational Units	Population	Quantitative Variable	Sample
Statistical Graphical Display	Statistical Investigative Question	Statistical Problem-Solving Process	Survey Question	Variable	

Notation**Essential Questions**

What is the distinction between mathematical models and statistical models?

What are the relationships among population distributions, sample distributions, and sampling distributions?

What is the role of hypothesis testing in statistics?

What is the role of random assignment and random selection in data collection?

What is bias, precision, and sampling method for evaluating estimators?

Assessment Tasks

List of common formative and summative assessments.

Formative Assessment(s):

Common quizzes, skills checks, exit tickets, warm ups, classwork

Summative Assessment(s):

Unit Test

<u>Learning Experiences</u> Add additional rows below as needed.		
Objective or Content	Learning Experiences	Personalized Learning and Differentiation
SR.DSR.2 • SR.DSR.2.1 • SR.DSR.2.2 • SR.DSR.2.3 • SR.DSR.2.4 SR.MM.1 SR.MP	Questioning Through the Investigative Process https://lor2.gadoe.org/gadoe/file/1eb14ead-a474-406e-94d6-a44fd9d3625e/1/Questioning-Through-the-Investigative-Process-SR-U2-Learning-Plan.pdf	Students can choose their investigative questions' focus.
Content Resources		
<ul style="list-style-type: none"> • Stapplet - constructing visual representations • Stats Medic - Categorical v. Quantitative, Center vs. Spread (Descriptive Statistics), Review shape 		