Marietta City Schools
2023–2024 District Unit Planner

<table>
<thead>
<tr>
<th>Unit title</th>
<th>Unit 1: Statistical Modeling</th>
<th>Unit duration (hours)</th>
<th>3-4 weeks</th>
</tr>
</thead>
</table>

**Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): What will students learn?**

**GA DoE Standards**

**Standards**

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**
- Graphical representations of real-world data and applications.
- Abstract and quantitative reasoning.
- Mathematical representations of data.

**Vocabulary**

<table>
<thead>
<tr>
<th>Association</th>
<th>Hypothesis Testing</th>
<th>Population Distribution</th>
<th>Sample Distribution</th>
<th>Statistical Investigative Question</th>
<th>Survey Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bias</td>
<td>Interrogative Questions</td>
<td>Quantitative Variable</td>
<td>Sampling Distribution</td>
<td>Statistical Models</td>
<td>Variability</td>
</tr>
<tr>
<td>Categorical Variable</td>
<td>Methods for Collecting Data</td>
<td>Randomization</td>
<td>Statistical Estimators</td>
<td>Statistical Thinking vs. Non-statistical Thinking</td>
<td></td>
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</tbody>
</table>

**Notation**

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Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.
### Essential Questions

- Can we distinguish statistical questions from nonstatistical questions?
- How do we visually represent data?
- Can we create interrogative or investigative questions?
- Can you identify the population (subjects) to be studied?
- Can you identify the data (values of a variable) to be collected?
- How do we develop an intuitive understanding of the expected variation in the data?

### Assessment Tasks

*List of common formative and summative assessments.*

### Formative Assessment(s): Learning Tasks and Skills Checks

### Summative Assessment(s): Unit 1 Summative Assessment - [Suggested Assessment Items from LOCUS](#)

### Learning Experiences

Add additional rows below as needed.

<table>
<thead>
<tr>
<th>Objective or Content</th>
<th>Learning Experiences</th>
<th>Personalized Learning and Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR.MM.1</td>
<td>Ladybugs Task - What do you notice and what do you wonder? Investigating visual representations</td>
<td>Students will work at their own pace, Review of previous graphical representations, descriptive data vocabulary.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Content Resources</th>
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<tbody>
<tr>
<td>Stapplet - constructing visual representations</td>
</tr>
<tr>
<td>Stats Medic - Categorical v. Quantitative, Center vs. Spread (Descriptive Statistics), Review shape</td>
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