### Marietta City Schools

2023–2024 District Unit Planner

### Unit: Unit 3: Collecting Data

<table>
<thead>
<tr>
<th>Unit title</th>
<th>Unit duration (hours)</th>
<th>6 Class Blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP Statistics</td>
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</tbody>
</table>

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

**GA DoE Standards**

**Standards**
3.1 Introducing Statistics: Do the Data We Collected Tell the Truth?
3.2 Introduction to Planning a Study
3.3 Random Sampling and Data Collection
3.4 Potential Problems with Sampling
3.5 Introduction to Experimental Design
3.6 Selecting a Experimental Design
3.7 Inference and Experiments

**Concepts/Skills to support mastery of standards**
- Differentiate between sample vs. population and observational vs. experimental study
- Identify the different methods of sampling
- Determine an appropriate sampling method to answer a statistical question
- Construct a good experiment

**Vocabulary**

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Observational study</th>
<th>Simple Random Sampling</th>
<th>Stratified Sampling</th>
<th>Cluster Sampling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Sampling</td>
<td>Census</td>
<td>Bias</td>
<td>Confounding Variables</td>
<td>Inference</td>
</tr>
</tbody>
</table>

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

- How do we know if the data we collect tells the truth?
- What type of conclusions can be drawn from different types of studies?
- How do we collect unbiased samples?
- How do we design a good experiment?

## Assessment Tasks

*List of common formative and summative assessments.*

### Formative Assessment(s):
Common Formative Assessment – Ticket out the Door, Homework, Group Presentations, Quiz

### Summative Assessment(s):
Common Summative Assessment – Unit 3 Test (50% Multiple Choice/50% Free Response)

## 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><strong>4.B</strong> Interpret statistical calculations and findings to assign meaning or assess a claim.</td>
<td><strong>Does SAT Prep Produce Higher Scores? (Stat Medic)</strong> Students will explore the effect of SAT Prep classes on SAT scores to explain the concept of confounding and how it limits the ability to make cause-effect conclusions.</td>
<td><strong>Support the Learning:</strong> Students may be provided with vocabulary support as well as guided notes and graphic organizers to aid in synthesizing the more complex ideas from the task.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Content Resources</th>
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<tbody>
<tr>
<td>All notes are provided on schoology.</td>
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<tr>
<td>The Practice of Statistics 5th edition</td>
</tr>
<tr>
<td>AP College Board</td>
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