Unit title: Unit 2: Exploring Two-Variable Data  
Unit duration (hours): 7 Class Blocks

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

### GA DoE Standards

#### Standards

- 2.1 Introduction Statistics: Are Variables Related?
- 2.2 Representing Two Categorical Variables
- 2.3 Statistics for Two Categorical Variables
- 2.4 Representing the Relationship Between Two Quantitative Variables
- 2.5 Correlation
- 2.6 Linear Regression
- 2.7 Residuals
- 2.8 Least Squares Regression
- 2.9 Analyzing Departures from Linearity

#### Concepts/Skills to support mastery of standards

- Two-way tables
- Association
- Correlation
- Linear Regression Models
- Residuals
- Least Squares Regression
- Analyzing Departures from Linearity

Published: August, 2023

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

<table>
<thead>
<tr>
<th>Categorical Variable</th>
<th>Quantitative Variable</th>
<th>Association</th>
<th>Scatterplot</th>
<th>Explanatory Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Variable</td>
<td>Correlation</td>
<td>Regression</td>
<td>Residual</td>
<td>Least-Squares Regression</td>
</tr>
</tbody>
</table>

Essential Questions

Where do I stand?
What are characteristics of a normal distribution?
How are z scores/percentiles useful when comparing different distributions?
How do I tell if a distribution is normal?

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 2 Test (50% Multiple Choice/50% Free Response)
<table>
<thead>
<tr>
<th>Objective or Content</th>
<th>Learning Experiences</th>
<th>Personalized Learning and Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.C Calculate summary statistics, relative positions of points within a distribution, correlation, and predicted response.</td>
<td><strong>How many iPhones will be sold? (Stats Medic)</strong> Students will investigate data on iPhone sales to determine the equation of a least-squares regression line using technology or computer output. Students will also construct and interpret residual plots to assess whether a regression model is appropriate.</td>
<td>Extending the Learning: Students can extend the data to include iPhone models released since 2015 and run the regression to explore changes in the linear model and their ability to make accurate predictions.</td>
</tr>
<tr>
<td>4.B Interpret statistical calculations and findings to assign meaning or assess a claim.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Content Resources**

All notes are provided on schoology.  
The Practice of Statistics 5th edition  
AP College Board

*Published: August, 2023*  
Resources, materials, assessments not linked to SGO or unit planner will be reviewed at the local school level.*