# Hattiesburg Public School District
# Grade 8 Mathematics Units
# 2015 – 2016

| Unit 8: Bivariate Data | Time Frame: 14 Days (April 18 – 29) |
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| **Content Standards** | **Standards for Mathematical Practice** |
| **Major Standards** | (1) Make sense of problems and persevere in solving them. |
| **Supporting Standards** | (2) Reason abstractly and quantitatively. |
| **8.SP.1** Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.<br><br>**8.SP.2** Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.<br><br>**8.SP.3** Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*<br><br>**8.SP.4** Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two- way table. Construct and interpret a two-way table summarizing data on two categorical | (3) Construct viable arguments and critique the reasoning of others.<br>(4) Model with mathematics.<br>(5) Use appropriate tools strategically.<br>(6) Attend to precision.<br>(7) Look for and make use of structure.<br>(8) Look for and express regularity in repeated reasoning.<br><br>*8.SP.1 – MP 2, 4, 5, 6, 7*<br>*8.SP.2 – MP 2, 4, 5, 6, 7*<br>*8.SP.3 – MP 2, 4, 5, 6, 7*<br>*8.SP.4 – MP 2, 3, 4, 5, 6, 7* |

variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

## Additional Standards

## Pre-requisite Standards

**8.SP.1**
- Compute averages, estimates, proportions, and ratios
- Basic operations with rational numbers.
- Read, observe and analyze tables, charts, graphs, and scatter plots.

**8.SP.2**
- Read, observe and analyze tables, charts, graphs, and scatter plots.

**8.SP.3**
- Identify, collect, organize, classify, and observe data from the coordinate plane pertaining to slope and intercepts when given different forms of equations or a t-table.
- Graph on the coordinate plane.
- Identify intercepts.
- Find slope of a line.
- Know and understand the relationship between functions, t-tables, and

ordered pairs.
- Solve linear equations.

**8.SP.4**
- Estimate
- Read, observe and analyze tables, charts, graphs, and scatter plots.
- Order and compare real numbers.
- Identify terms about temperature and calculate temperature.

| Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 |
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| Lesson Topic<br>Model and interpret bivariate measurement data<br><br>Standard Ref<br>8.SP.1<br><br>Resource/Strategy<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit | Lesson Topic<br>Construct and Interpret scatter plots and describe data using linear functions.<br><br>Standard Ref<br>8.SP.2<br><br>Resource/Strategy<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit | Lesson Topic<br>Use line of best fit to solve problems<br><br>Standard Ref<br>8.SP.3<br><br>Resource/Strategy<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit | Lesson Topic<br>Use the equation of a linear model to solve problems using bivariate data<br><br>Standard Ref<br>8.SP.1,8.SP.2, 8.SP.3, 8.SP.4<br><br>Resource/Strategy<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit | Lesson Topic<br>Interpret and construct scatter plots and describe slope and intercept using linear functions<br><br>Standard Ref<br>8.SP.1,8.SP.2, 8.SP.3<br><br>Resource/Strategy<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit |
| **Lesson 6** | | | | |

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| **Lesson Topic**<br>Understand, construct, and interpret two-way tables.<br><br>**Standard Ref**<br>8.SP.4<br><br>**Resource/Strategy**<br>https://docs.google.com/document/d/1uM3pZuKUJugPiGKTLbQXvJAPt_qod2PYicWIKkUapM8/edit | | | | |