**Corsica Stickney Curriculum Map**

| Subject: Algebra 1<br>Grade:9th<br>Unit4<br>Module 8 lessons 8.1,8.2<br>Module 9 lessons 9.1,9.2,9.3,9.4<br>Module 10 lessons 10.1,10.2 | Teacher: Mr. Jason Broughton<br>Duration: November |
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Summary of unit:
 students will complete a Math in Careers task by examining the data of several U.S. rivers. Critical skills include finding and comparing the mean and median, examining the impact of an outlier on the mean, and finding the range and standard deviation.

| **Stage 1 – Desired  Results** ||
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| Standards<br>S-ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.<br><br>S-ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.<br><br>S-ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).<br><br>S-ID.6c Fit a linear function for a scatter plot that suggests a linear association<br><br>S-ID.6b Informally assess the fit of a function by plotting and analyzing residuals | Essential Questions:<br> How can categorical data for two categories be summarized?<br><br>How can you recognize possible associations and trends between two categories of categorical data?<br><br>How can you describe and compare data sets?<br><br>What statistics are most affected by outliers, and what shapes can data distributions have?<br><br>How can you interpret and compare data sets using data displays?<br><br>How can you use characteristics of a normal distribution to make estimates and probability predictions about the population that the data represents?<br><br>How can you describe the relationship between two variables and use it to make predictions?<br><br> How can you use the linear regression function on a graphing calculator to find the line of best fit for a two-variable data set? |

| **Language objective** | **Mathematical practices** | **Integrate mathematical practice** |
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| Distinguish between quantitative data and categorical data.<br><br>In a two-way relative frequency table, identify a | MP.1 Problem Solving<br><br> MP.7 Using Structure | MP.1 problem solving<br>Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and |

joint relative frequency and a marginal relative frequency, and explain what they mean.

Explain the difference between a measure of

center and a measure of spread.

Explain to a partner what an outlier is.

Explain what each part of a histogram represents.

Describe the characteristics of a normal distribution

Explain the difference between correlation and causation.

Demonstrate to a partner how to find and plot the residuals for a line of fit. Explain what the residuals tell you about the quality of fit.

goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

MMP.7 Using Structure Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many

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| | | sides the shapes have. Later, students will see $7 \times 8$ equals the well-remembered $7 \times 5 + 7 \times 3$ in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as $2 \times 7$ and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers $x$ and $y$ |

## Stage 2 – Assessment Evidence

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| Performance Tasks:<br>Homework quizzes, worksheet,  Tests. | Unit Pre-Assessment:<br>Assign ready-made or customized practice tests to prepare students for high-stakes tests |
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## Stage 3 – Learning Plan

Learning Activities: procedures/topics
Reading and discussing lesson with class.
Giving students examples to be completed in class.
Students taking notes and using notes to complete homework assignments.

# Corsica Stickney Curriculum Map

| Lesson Description |
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| MODULE 8   Multi-Variable Categorical Data |
| 8.1 Two-Way Frequency Tables |
| 8.2 Relative Frequency |
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| MODULE 9 One-Variable Data Distributions |
| 9.1 Measures of Center and Spread |
| 9.2 Data Distributions and Outliers |
| 9.3 Histograms and Box Plots |
| 9.4 Normal Distributions |
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| MODULE 10 Linear Modeling and Regression |
| 10.1 Scatter Plots and Trend Lines |
| 10.2 Fitting a Linear Model to Data |