# MCS Statistical Reasoning Subject Group Overview

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Time Frame</th>
<th>Standards</th>
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<tr>
<td>Unit 1 - Statistical Modeling</td>
<td>3 - 4 weeks</td>
<td>SR.MM.1, SR.MP.1-8</td>
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<tr>
<td>Unit 2 - Statistics as a Problem-Solving Process and the Role of Questioning</td>
<td>3 - 4 weeks</td>
<td>SR.SDR.2, SR.MM.1, SR.MP.1-8</td>
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<tr>
<td>Unit 3 - Collecting/Considering Data and Types of Studies (including nontraditional data)</td>
<td>6 - 7 weeks</td>
<td>SR.DSR.3, SR.MM.1, SR.MP.1-8</td>
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<tr>
<td>Unit 4 - Analyzing Data and the Role of Distributions</td>
<td>7 - 8 weeks</td>
<td>SR.DSR.4, SR.MM.1, SR.MP.1-8</td>
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<td>Unit 5 - Interpreting Results to Answer the Statistical Investigative Question</td>
<td>5 - 6 weeks</td>
<td>SR.DSR.5, SR.MM.1, SR.MP.1-8</td>
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<tr>
<td>Unit 6 - Culminating Capstone Unit</td>
<td>2 - 3 weeks</td>
<td>ALL STANDARDS, SR.MM.1, SR.MP.1-8</td>
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### Standards
- SR.MM.1
- SR.MP.1-8

### Content Specific Information
- **Graphical representations of real-world data and applications.**
- **Abstract and quantitative reasoning.**
- **Mathematical representations of data.**
- **Formulate investigative questions about a population using samples.**
- **Formulate comparative and associative investigative questions for surveys, observational studies and experiments for comparative purposes.**
- **Compare one, two, and multivariable groups.**
- **Investigate statistical questions to compare association and make predictions.**
- **Apply an appropriate data-collection plan when collecting primary or secondary data for the statistical question of interest.**
- **Distinguish between surveys, observational studies, and experiments.**
- **Design sample surveys, experiments, and observational studies using accepted practices.**
- **Distinguish between random selection and random assignment; identify their impact on conclusions.**
- **Describe potential sources of bias and confounding variables.**
- **Describe and adhere to the ethical use of data.**
- **Identify when data can be generalized to a target population.**
- **Summarize quantitative and categorical data using tables, graphs, and summary statistics.**
- **Multivariable connections.**
- **Sampling distributions computed to p-values.**
- **Least-square regression line (using technology).**
- **Using simulations to compare two categorical variables.**
- **Formulate statistical questions.**
- **Outliers, missing values, and erroneous values on the results.**
- **Estimates for population characteristics.**
- **Interpret margin of error associated with population characteristic.**
- **Impacts of multi variables.**

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<th>Common Assessments/Performance Projects</th>
<th>Mid-Unit Quiz Unit 1 Test</th>
<th>Mid-Unit Quiz Unit 2 Test</th>
<th>Mid-Unit Quiz Unit 3 Test</th>
<th>Mid-Unit Quiz Unit 4 Test</th>
<th>Mid-Unit Quiz Unit 5 Test</th>
<th>Final/Culminating Project</th>
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<td>Differentiation For Tiered Learners</td>
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Marietta City Schools teachers provide specific differentiation of learning experiences for all students. Details for differentiation for learning experiences are included on the district unit planners.