

S.T.E.M. Lesson Plan

Title: The *CSS Georgia* Confederate Ship during Civil War History

Lesson Dates: Sep - Oct 2016

Standards: **SSUSH9** The student will identify key events, issues, and individuals relating to the causes, course, and consequences of the Civil War; **SCSh3** Students will identify and investigate problems scientifically; **SCSh6** Students will communicate scientific investigations and information clearly; **MM2P3** Students will communicate mathematically; **MM2P4** Students will make connections among mathematical ideas and to other disciplines; **MM2P5** Students will represent mathematics in multiple ways; **ELAGSE9-10RI7** Analyze various accounts of a subject told in different mediums (e.g., a person's life story in print and multimedia), determining which details are emphasized in each account; **ELAGSE9-10RI8** Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning; **ELAGSE9-10RI4** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper); **ELAGSE9-10W2** Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content; **ELAGSE9-10W6** Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically; **ELAGSE9-10W7** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. **ELAGSE9-10W8** Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation; **ELAGSE9-10W9** Draw evidence from literary or informational texts to support analysis, reflection, and research; **ELAGSE9-10SL2** Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source; **ELAGSE9-10SL3** Evaluate and/or reflect on a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence; **ELAGSE9-10SL4** Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate

to purpose, audience, and task; **ELAGSE9-10SL5** Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Essential Questions:

- Explain the importance of the growing economic disparity between the North and the South through an examination of population, functioning railroads, and industrial output.
- Collect, organize and record appropriate data
- Develop reasonable conclusions based on data collected.
- Evaluate whether conclusions are reasonable by reviewing the process and checking against other available information.
- Write clear, coherent accounts of current scientific issues, including possible alternative interpretations of the data.
- Use data as evidence to support scientific arguments and claims in written or oral presentations
- Participate in group discussions of scientific investigation and current scientific issues.
- Organize and consolidate their mathematical thinking through communication.
- Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.
- Use the language of mathematics to express mathematical ideas precisely.
- Recognize and use connections among mathematical ideas.
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
- Recognize and apply mathematics in contexts outside of mathematics.
- Create and use representations to organize, record, and communicate mathematical ideas.
- Select, apply, and translate among mathematical representations to solve problems.
- Use representations to model and interpret physical, social, and mathematical phenomena.

Objective: This S.T.E.M. lesson primary goals are as follows: help the beginning student master the principles essential for understanding scientific problems, specific social science issues, and mathematical alternatives; help the student understand and apply the scientific perspective and reason accurately and objectively about engineering matters; promote a lasting student interest in science, technology, engineering, english, math and the social sciences.

Warm-up: Essential Question of the day, write your answer on a piece of paper; share your answer with the class; class discussion; review previous days lesson key points

Lesson: Class Activity--Play Civil War Jeopardy Game, after dividing the class into teams; Use the LCD Projector & power points slides to look at the Civil War; Use powerpoints to also discuss Civil War technology, students will write an essay about their favorite technology from the Civil War period; Students will learn about the *CSS Georgia* by going to the official webpage <http://1.usaa.gov/1G6S2Hn>,

Students will then write a research report and then do an Oral report in class about their research findings ; Create one of the following options: a model replica of the *CSS Georgia*, a poster drawing of the *CSS Georgia*, or a powerpoint about the development, making, and use of the *CSS Georgia*; Give an over view of the Document Based Questions (DBQ) research and writing process; Students will use the DBQ research process to answer the following question: Was the creation and building of the *CSS Georgia* a failure or a success? Why or why not?; Students will complete a worksheet calculating the buoyancy force needed to keep the *CSS Georgia* afloat on the Savannah River, along with the size of the ship's dimensions (length, width, height); Class Activity--Take a field trip to the Savannah River, get samples of water from the river, and analyze the salt content of the river; analyze other microorganisms in the water; write a research paper about how the content of the water contributes to the ships decay under water or contributes to marine life growing on the ship wreckage itself; Students will choose sides to debate whether or not the *CSS Georgia* should be sunk to stop Union advancement towards Savannah.

Resources: Marker board, eraser markers, paper, Group Activity handouts, LCD Projector, Online Powerpoint Presentations, websites, class computer; school computer lab

Homework: Complete questions on another hand out dealing with the Civil War.