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STEM & Social Studies



Teaching Social Studies without context creates one-dimensional learners. Connecting STEM & Social Studies teaches students that historical events do not happen in isolation. For example, many technological advancements have intended and unintended consequences in society. Therefore, an integrated study of science, technology, engineering, math and world events is necessary to produce critical thinkers who are prepared to tackle real life problems. This integration is evident in the Georgia Standards of Excellence (GSE) as well as the map/globe and information processing skills used to teach these standards in Social Studies.

Social Studies Georgia Standards of Excellence (GSE) Alignment to STEM

Concepts include but are not limited to the following:

K-12 STEM Concepts:

- **Environmental Issues** around the world (water distribution in Africa, pollution in SE Asia, acid rain in Germany, nuclear disaster in Chernobyl, etc)
- **Technological advancements** and the societal impacts (cotton gin and slavery, atomic bomb and rules of war, air conditioner and work hours, television and the Civil Rights movement, etc)
- **Factors for Increasing Economic Productivity** and the impact on society (investing in human capital, investing in the factors of production, increased Standard of Living, etc...)
- **Developments in Transportation** and the consequences (population distribution, immigration issues, political reform, etc)

Map and Globe Skills Alignment to STEM

Skills include but are not limited to the following:

- 1. use a compass rose to identify cardinal direction
- 3. use a letter/number grid system to determine location
- 5. use graphic scales to determine distances on a map
- 11. compare maps with data sets (charts, tables, graphs) and /or readings to draw conclusions and make generalizations
- 12. use geographic technology and software to determine changes, identify trends, and generalize about human activities



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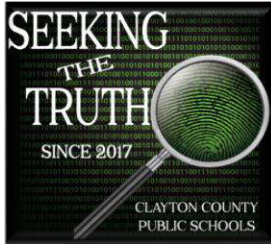
Information Process Skills Alignment to STEM

Concepts include but are not limited to the following:

- 3. identify issues and/or problems and alternative solutions- **Science and Engineering Practice #1: Asking questions and defining problems**
- 7. interpret timelines, charts, and tables- **Mathematics Science and Engineering Practice #4: Analyzing and Interpreting Data**
- 12. analyze graphs and diagrams- **Mathematics Science and Engineering Practice #4: Analyzing and Interpreting Data**
- 14. formulate appropriate research questions- **Science and Engineering Practice #1: Asking questions and defining problems**



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STEM & Inquiry Based Learning



Through the implementation of Inquiry Based Learning, students in Social Studies courses learn how to ask questions, to think critically, and to investigate the social world. Each inquiry begins with a question which introduces problems in the social world that need solutions. Students complete a summative performance task that requires students to construct an argument with the use of documents, data, and other evidence given throughout the investigation. Students are then asked to “take informed action,” which consists of activities that addresses issues evident from the inquiry in a larger and/or current context, assesses the relevance and impact of the issues, and allow students to demonstrate agency in a real-world context. Therefore, Science and Engineering practices such as engaging in argument from evidence, planning and carrying out investigations, analyzing and interpreting data are being addressed in an Inquiry Based Classroom. Inquiry Based Learning goes beyond rote memorization of facts and regurgitation of information to trigger curiosity so that students can answer their own questions. Further, students are participating in real world application of knowledge and skills learned in Social Studies by taking informed action. **Inquiry Based learning addresses critical thinking, creativity, collaboration, and communication (4C's).** Here is how it appears in the CCPS Social Studies curriculum:

Compelling Questions: Compelling questions address issues found in and across the academic disciplines that make up social studies. Compelling questions reflect the interests of students and the curriculum and content with which students might have little experience.	Example: Should a nation be responsible for protecting the rights of ALL citizens, even if it could be at the detriment of that nation? (5TH Grade)
Taking Informed Action: The three activities described in this space represent a logic that asks students to a) understand the issues evident from the inquiry in a larger and/or current context, b) assess the relevance and impact of the issues, and c) act in ways that allow students to demonstrate agency in a real-world context.	Understand- Research a “hot topic” currently impacting the United States (ie. immigration) Assess- Determine how America’s government and American citizens are divided on the issue. Act- With your colleague(s) develop a social media blog that is shared with your district’s representative that discusses how this issue could lead the United States adding an additional amendment to the Constitution, and/ or Civil War. (5th Grade)
STEM & DBQs Students in Social Studies courses complete Document Based Questions (DBQs) in each unit. DBQs prepare students for higher levels of	-What Types of Citizen Does a Democracy Need? -Should Americans Be Required to Vote?



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cognitive demand across disciplines by exposing them to challenging informational text, document analysis, and argumentative writing. Through this process, students are synthesizing information from multiple sources in order to create solutions to complex problems.

-Search and Seizure: Did the Government Go Too Far?

-Is the American Jury System Still a Good Idea?
(5th Grade)

Social Studies High Impact Strategies: Teachers utilize the Social Studies High Impact Practices to determine how they will teach the Social Studies content from the standard. **Each of these researched based strategies offer opportunities for students to engage in each of the 4C's.**

HOW ARE WE DOING SOCIAL STUDIES TODAY?

Social Studies High Impact Strategies	
Effectively Utilizing Essential Questions 1. Are students being asked open ended questions that require more than a yes or no answer? 2. Are students being asked questions that recurs over time and requires them to make connections between major concepts? 3. Are transferrable ideas present in students' responses? 4. Do answers require justification from students?	
S.W.I.R.L. 1. Are students speaking in the discipline? 2. Are students writing in the discipline? 3. Are students illustrating in the discipline? 4. Are students reading in the discipline? 5. Are students listening in the discipline?	
Analyzing and Synthesizing Primary Sources 1. Are students sourcing? 2. Are students contextualizing? 3. Are students participating in close reading? 4. Are students corroborating a variety of sources (documents, images, visual & audio media, artifacts)?	
Promoting Civil and Civic Discourse 1. Are students debating? 2. Are students discussing? 3. Are students participating in engagement?	
Engaging in Historical Thinking 1. Are students examining multiple perspectives? 2. Are students providing evidence based claims? 3. Are students making connections to current events by recognizing historical patterns and trends?	
Implementing Skills from the Social Studies Skills Matrices 1. Information Processing Skills: Are students able to locate, analyze, and synthesize information related to social studies topics and apply this information to solve problems/make decisions? 2. Map and Globe Skills: Do students use maps to retrieve social studies information?	



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STEM & Social Studies Beyond the Classroom



In addition to the Social Studies curriculum, students have the opportunity to participate in a variety of learning experiences that go beyond the standards to truly **require students to understand and implement behaviors aligned to the 4C's**. Here a few of those opportunities:

National History Day	National History Day is a year-long academic program focused on historical research, interpretation and creative expression for 6th- to 12th-grade students. By participating in NHD, students become writers, filmmakers, web designers, playwrights and artists as they create unique contemporary expressions of history. The experience culminates in a series of contests at the local and affiliate levels and an annual national competition in the nation's capital in June.
Social Studies Fair	Teachers guide students in The development of research projects addressing significant social studies topics using social studies, literacy, and research methodology instruction. Students communicate their findings through abstracts, research summary papers, visual presentations, and interviews at social studies fairs.
Mock Trial Competition	The Mock Trial program was created to help students acquire a working knowledge of our judicial system, develop analytical abilities and communication skills, and gain an understanding of their obligations and responsibilities as participating members of our society.
"I'm W.O.K.E."	Students use math to research historical trends and learn how to impact social change decisions that affect their community .