

Project Planning Template

International Hacking: Cyberwar

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| COURSE: Cyber Security | DURATION: 2 weeks and 2 days | TEACHER: | International Hacking: Cyberwar |
| GLOBAL ISSUE OVERVIEW | | | |
| <p>America has spent decades and trillions of dollars building up the greatest military force in the world. The biggest threat to national security these days, however, comes not from infantry divisions or aircraft carriers, but from a computer with a simple internet connection. Criminals, terrorists, and countries who wish to do us harm have all realized that online attacks are often easier than attacking in person. As more and more sensitive data is stored online, the consequences of those attacks grow more significant each year. Some of these cyber attacks come from groups who associate themselves with another country (e.g., Anonymous Syria), government (e.g., SEA supporting the Assad regime), or other entities (e.g., Cyber Caliphate supporting the Islamic State), while others express no particular allegiances (e.g., Anonymous). Putting ourselves in the mind of our potential adversaries helps us to understand and learn how to contain problems.</p> <p>Global Competencies Addressed:</p> <ul style="list-style-type: none"> • Investigate the World: Initiate investigations of the world by framing questions, analyzing and synthesizing relevant evidence, and drawing reasonable conclusions about global issues. • Recognize Perspectives: Recognize, articulate, and apply an understanding of different perspectives. • Communicate Ideas: Select and apply appropriate tools and strategies to communicate and collaborate effectively, meeting the needs and expectations of diverse individuals and groups. • Take Action: Translate ideas, concerns, and findings into appropriate and responsible individual or collaborative actions to improve conditions. | | | |

| STANDARDS ADDRESSED | | |
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| Career/Technical Knowledge and Skills | Academic Knowledge and Skills | 21 st Century Skills |
| <p>Common Career Technical Core <i>Career Ready Practices</i></p> <p>CRP – 1 Act as a responsible and contributing citizen and employee.</p> <p>CRP – 4 Communicate clearly, effectively, and with reason.</p> <p>CRP – 5 Consider the environmental, social, and economic impacts of decisions.</p> <p>CRP – 6 Demonstrate creativity and innovation.</p> <p>CRP – 7 Employ valid and reliable research strategies.</p> <p>CRP – 10 Use technology to enhance productivity.</p> <p>CRP – 12 Work productively in teams while using cultural/global competence.</p> <p><u>Information Technology Career Cluster (IT)</u></p> <p>10. Describe the use of computer forensics to prevent and solve information technology crimes and security breaches.</p> <p><u>Government & Public Administration Career Cluster (GV)</u></p> <p><u>National Security Career Pathway (GV-SEC)</u></p> <p>4. Collect and analyze information from within and outside the United States to assess threats and opportunities regarding national security.</p> <p>5. Develop strategies to defend against and respond to the effects of chemical, biological, radiological, nuclear (CBR N) or other emergent events.</p> | <p>Writing: Communicate information and ideas in narrative, informative, and persuasive writing with clarity and effectiveness.</p> <p>W.9-10.3 W.11-12.3</p> <p>WHST.9-10.2 WHST.11-12.2</p> <p>WHST.9-10.4 WHST.11-12.4</p> <p>Speaking: Deliver planned and impromptu oral presentations.</p> <p>SL.9-10.1 SL.11-12.1</p> <p>SL.9-10.4 SL.11-12.4</p> <p>SL.9-10.6 SL.11-12.6</p> <p>Common CORE Literacy</p> <p>CCSS.ELA-LITERACY.RST.11-12.7</p> <p>Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.</p> <p>CCSS.ELA-LITERACY.RST.11-12.9</p> <p>Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>CCSS.ELA-LITERACY.SL.11-12.4</p> <p>Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance,</p> | <p>Learning and Innovation Skills:</p> <ul style="list-style-type: none"> • Critical Thinking and Problem Solving • Communication and Collaboration <p>Information, Media, and Technology Skills:</p> <ul style="list-style-type: none"> • Information Literacy <p>Life and Career Skills:</p> <ul style="list-style-type: none"> • Flexibility and Adaptability • Initiative and Self-Direction • Productivity and Accountability • Leadership and Responsibility |

and style are appropriate to purpose, audience, and a range of formal and informal tasks.

CCSS.ELA-LITERACY.SL.11-12.5
 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.

PROJECT DEFINITION & GOALS/OBJECTIVES

1. Students will investigate a cyber attack situation presented in the news.
2. Students will identify and analyze historical information on the relationship between the United States and other countries.
3. Students will develop a cyber security plan to deter future cyber attacks such as the one they investigate.

Project Goals/Objectives:

- Identify and investigate a cyber attack against the United States.
- Analyze historical information on the relationship between the United States and the country from which the cyber attack originated.
- Develop a cyber security plan to deter future cyber attacks.

SCENARIO OR PROBLEM: What scenario or problem will you use to engage students in this project?

You have been hired by an agency as a consultant to investigate recent cyber attacks against the United States. You will need to research and report on the recent incident reported in the news. In your consultative role, you need to understand the perspectives of our adversaries, so you need to report not only on the details of the cyber attack, but also on the relationship the US has with the country of the hackers. Finally, you need to propose how the United States should combat the cyber meddling. You will present your findings in two weeks.

Essential Questions

- How is technology influencing human behavior?
- Is the need for cyber security the result of technology or of economic inequalities?
- Whose responsibility is cyber security and why? Governments?

Grade Level Adaptations

Younger grades: Before starting the project, the teacher could select three different situations; students select one and then work together in larger groups. A teacher (of history/social studies or another subject) could present and lead a discussion on the three

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| Business and Industry? Some other entity? | countries rather than students researching countries on their own. More advanced students: Students can work individually on the project. Students could conduct an interview with a cyber security or forensic computer specialist on cyber attacks. |
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ASSESSMENT: How will you determine what students have learned? (Check all that apply.)

| FORMATIVE | | SUMMATIVE | |
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| Quizzes/Tests | | Multiple Choice/Short Answer Test | |
| Notes/Graphic Representations | X | Essay Test | |
| Rough Draft | | Written Product with Rubric | |
| Practice Presentation | X | Oral Presentation with Rubric | X |
| Preliminary Plans/Goals/Checklists of Progress | X | Other Product or Performance with Rubric | |
| Journal/Learning Log | | Self-Evaluation or Reflection | X |
| Other: | | Evaluation by Authentic Audience | X |
| | | Other: | |

MATERIALS, RESOURCES, or CONSTRAINTS: What materials and resources will be needed? Are there any perceived challenges?

- Computer access
 - Internet access
 - Presentation Rubric
 - Reflection worksheet
- Internet Resources – content specific:
- “The Cold War is Over, the Cyber War has Begun,” *Washington Post* article and video: https://www.washingtonpost.com/opinions/global-opinions/the-cold-war-is-over-the-cyber-war-has-begun/2016/09/15/bc4ca5c0-7b87-11e6-bd86-b7bbd53d2b5d_story.html?utm_term=.332cda9ec1c3
 - Cyber Security National Action Plan: <https://www.whitehouse.gov/the-press-office/2016/02/09/fact-sheet-cybersecurity-national-action-plan>
 - Federal Cyber Security Research and Development Strategic Plan: https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/2016_Federal_Cybersecurity_Research_and_Development_Strategic_Plan.pdf
 - Profiling Modern Hackers: <http://www.getadvanced.net/profiling-modern-hackers>
 - Understanding New Hactivism: <http://www.govtech.com/blogs/lohrmann-on-cybersecurity/understanding-new-hactivism-where-next-for-hackers-with-a-cause.html>
 - The Rise of Hactivism: <http://journal.georgetown.edu/the-rise-of-hactivism/>
 - Country Profiles: <http://www.infoplease.com/countries.html>

- Office of the Historian, Country Historical Reference Information: <https://history.state.gov/countries/all>
- BBC Country Profiles: http://news.bbc.co.uk/2/hi/country_profiles/default.stm

SUPPORT, MODIFICATIONS, AND EXTENSIONS: What is needed to provide support for students who have difficulty learning the content, modify for students with special learning needs, or to provide enrichment for advanced students?

- Teacher-created graphic organizers can be used to guide the project’s research and recommendation phases for students who need additional structure.
- Extended time can be offered to students with special learning needs.
- Advanced students can interview a local law enforcement officer on the topic.
- Before and after school assistance will be offered.

CALENDAR OF MAJOR LEARNING ACTIVITIES—What are the learning activities or tasks for each day? Are there any project milestones? When will formal assessment activities occur?

| Week 1 | | | | |
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| Monday | Tuesday | Wednesday | Thursday | Friday |
| Students read the opinion article, “The Cold War is Over, The Cyber War has Begun” and show the video in the article. Review the recent events presented. Discuss perceptions of cyberwar and countries attacking the United States. Discuss and research other cyber attacks against the United States. | Students finish researching cyber attacks and discuss situations they found. Present the project and scenario to the class. Determine teams and the recent cyber attack cases that each team will research further. | Team day – Teams meet and determine plan for project completion; begin research on hacking situation and country of the hackers. | Research day – Continue research on hacking situation and countries. | Finish research on hacking situation and countries; teacher checks-in on research completion; create outline for presenting the cyber attack case and the country information. |
| Week 2 | | | | |
| Review the “Federal Cyber Security Research and Development Strategic Plan” and creating a cyber security plan; teams complete presentation outline of cyber attack case and country profile. | Team day – Develop cyber security plan. | Team day – Finish cyber security plan; add cyber security plan to presentation outline. | Team day – Create presentation; teacher check in. | Team day – Finish presentation; teams practice presentations and provide feedback. |
| Week 3 | | | | |
| Cyber security presentations to “agency representatives.” | Student individual reflections; class reflection | | | |

activity.

STUDENT REFLECTION ACTIVITIES—How will students reflect on their work? Add reflection questions and/or activities here.

See the International Hacking: Cyberwar Reflection sheet.

Post the project titles and student names in front of the room. Put one collection box per student project at the back of the classroom with the name of each project on the box. Ask students to complete the reflection sheet. As they complete it, have students come to the back of the room one at a time, use scissors to cut apart their notes, and submit to the correct project box. When all student notes have been submitted, allow each team to take their box and read the notes from the other students. Have teams share what others most learned from their project and what (if anything) surprised them about the notes.

Adapted from: Southern Regional Education Board, Unit Planning Template, 592 10th St. N.W., Atlanta, GA 30318-5776