Lesson Plan

Lesson Title: Hacking

Grade Level: 9-12

Learning Standards: 9-12.CY.3 Explain specific trade-offs when selecting and implementing security recommendations.

Learning Objective: Upon completion the student will be able to understand the concept of hacking and the different types of hackers.

Warm-up activity: Ask the students what they think hacking is? Have them brain storm. Is it just with computers? What about hack videos on Facebook and twitter?

Focus activity:

Discuss the origins of hacking

> The original meaning of the word Hacker was someone who liked to take things apart, find out how they worked, improve them or modify them to meet their needs.

> Started with people trying to hack the telephone system because it is the largest network in the world at the time

> Steve Jobs and Steve Wozniak created blue boxes to make free phone calls and sold them.

Start with the video.

Discuss the different type of hackers. White, Black, Green, Grey, Red, and Blue Hat Hackers

> https://youtu.be/OpT0MMYoAk0 (There may be better videos, I have not had the time to search for more videos.)

> Black Hat – someone who maliciously searches and exploits vulnerabilities in computer systems or networks using malware and other hacking techniques to do harm.

> White Hat – a security specialist hired to find vulnerabilities in hardware, software, and networks that black hats may target. (Ethical Hackers)

> Grey Hat – A fusion of black and white. Exploit vulnerabilities without malicious intent, like white hats, but may use illegal methods

> Red Hat – They seek to harm black hat hackers

> Green Hat – Hacker wannabes who are eager to learn the ricks of the trade

> Blue Hat – They are white hats who work on unreleased products

Discuss Hacktivism: Hacking + Activism

Doxing: Process of finding, sharing, and publicizing personally-identifying information of people on the web.

Denial of Service: Coordinated use of many computers to push a large amount of traffic so that they go completely off-line.

Data Breaches: Same as identity theft

Hacking online properties: Hacking a web site to change the content to change the message on the online property.

Discuss Certified Ethical Hackers

Vulnerability Assessment

Penetration Testing

Software vulnerability Assessment

Misuse Case testing

Test case assessment

Risk, threat and vulnerability Assessment

Certification for CEH

Video about CEH – Practical Exam https://youtu.be/1OvJLxyIgPM
Video about CEH – ANSI Exam https://youtu.be/LHU0OFcWSBk

Brochure for CEH Certification - https://www.eccouncil.org/wp-content/uploads/2016/07/CEHv10-Brochure.pdf

Fee: $1,199

4-hour exam

$80 renewal fee

Good for three years

Discuss the types of hacking and careers in hacking. – This is a discussion for day 2 after students have done their research outlines in the reflection piece. Point out to them the Occupational Outlook Handbook. https://www.bls.gov/ooh/

Closure: Go over what we learned and compare it to the original question in the warm-up and see if people were correct.

Reflection: Have students find 3 facts about careers in hacking and we will share either at the end of the period or first thing the next day. For example: What are the names of the Job descriptions? What is the average salary? Are certifications required? What types of businesses hire hackers?