Lesson Title: Think like a Hacker **Subject: Computer Science**
Essential Question: How Can We Protect Ourselves from Hackers?
Grade Level: 3-12 Duration: 45-60min

Pretest Questions	1. What is Cybersecurity? 2. What can you do to keep your information safe? 3. How do you spot phony emails/spam?
Objectives	SWBAT: Learn the importance of creating a strong password. Learn what to watch for in emails/website to determine authenticity. Learn about the different cyberattacks hackers use and how to spot them. Understand the different kinds of hackers. (white hat, black hat, etc.)
Catch	Show Jimmy Kimmel video about passwords. https://www.youtube.com/watch?v=opRMrEfAIiI&t=7s Let students know they will be creating their own company and trying to keep and attract as many followers as possible. Prizes for top 3 companies.
Activity	Modified from: http://www.pbs.org/wgbh/nova/labs/lab/cyber/research#/newuser Students will work through NOVA Cybersecurity Lab at own pace while teacher keeps leaderboard on board throughout competition.
Review	Teacher will lead discussion about what students learned from the activity and point out anything important about passwords, fake sites/emails that students omitted. Teacher will also talk about current bug bounties and remind them the difference between hackers.
Assessments	Teacher will record number of stars and followers for each section. If students get 1-star re-teaching may be necessary. No formal summative assessment at this time.
Posttest Questions (same as pretest questions)	1. What is Cybersecurity? 2. What can you do to keep your information safe? 3. How do you spot phony emails/spam?
NGSS, Common Core, ISTE, etc… Standards	CSTA: 3A-NI-06 2-NI-06, 2-NI-05 1B-NI-05, 1A-NI-04 WY CS Standards PRIORITY 5.NI.C.01 Discuss real-world cybersecurity problems and identify and implement appropriate strategies for how personal information can be protected. Practice 3.1 Recognizing and Defining Computational Problems 8.NI.C.01 Critique physical and digital procedures that could be implemented to protect electronic data/information. Practice 7.3 Communicating About Computing

	L1.NI.C.01 Give examples to illustrate how sensitive data can be affected by malware and other attacks. Practice 7.2 Communicating About Computing
In what unit/lesson would this fit (e.g., Energy unit)?	Internet Safety

Modified from: http://www.pbs.org/wgbh/nova/labs/lab/cyber/research#/newuser

Pretest/Posttest Questions:

1. What is Cybersecurity?
   The state of being protected against the criminal or unauthorized use of electronic data, or the measures taken to achieve this.

2. What can you do to keep your information safe?
   Be aware of what information you're sharing… Strong Password…Don't share Passwords… Use only trusted networks… Don't use social media…

3. How do you spot phony emails/spam?
   Email address that are not from the company they say they are…Misspelled words in emails… asking for money… asking for personal information…broken English…

   Sample Review Questions/Discussion Starters:

   Which challenge was the most interesting? Why?

   Tell me something you learned about _____(passwords, email, telemarketers, cyber attacks) that you didn't know before.

   What suggestion would you make to a friend about their email password?

   If a friend came to you and asked is this email from _____(amazon, ebay, best buy)? What things would you tell them to look for?

   Tell me what you found to be the most frustrating and why.

   Did this exercise help you understand cyber attacks better? Which parts?

   How would you protect yourself from cyber attacks?

   Why would a company offer a bug bounty?

   Why would a company employ someone to "hack" their system?

   Would you recommend this to a friend? Why or why not?