

## Are you really secure?

Lesson Summary: Students will explore the importance of digital security through the concept of least privilege. The students will be using online password generators to create passwords and then compare them using [How Secure is My Password?](#)

Time Allotment: Approximately 80 minutes

Lesson Objective: Students will learn the importance of creating secure passwords to protect their information.

### Key Vocabulary

- Password Protection: The requirement that visitors use a password when they access a website so that only certain people can view the site and participate in its online activities
- Random Having no pattern
- Security: Freedom from danger. Online, "security" refers to protecting one's private information and protecting a computer from viruses or "malware"
- Screen Name: The online name you choose to log in with or to post on a website

### Learning Activities

Engage(15 minutes)

- The teacher will break the students into small groups. The teacher will then ask the groups to brainstorm and write down everything that comes to mind when they hear the word security.
- The teacher will then create a chart (word web, Venn, or T-chart) on the board and begin the grand conversation comparing what they perceive as security.

Explore(15 minutes)

- Students will watch a short video  
[http://www.pbs.org/wgbh/nova/labs/video\\_popup/5/31/](http://www.pbs.org/wgbh/nova/labs/video_popup/5/31/)

- Students will discuss the video with their groups about digital security and it's important. They will also discuss ways the can protect themselves.

Explain(15-20 minutes)

- Introduce vocabulary
- As a class they will have a grand conversation discussing security and passwords.

Elaborate(20 minutes)

- Students will use the attached chart to organize their password results.
- Students will create 6 original passwords varying in lengths (two of each length 4, 6, 8 characters)
- Students will go to several online password generators sites and then create 6 more passwords.
- Students will then compare how long it took to break their passwords and discuss which method was better.

Evaluate(10 minutes)

- Students will complete a 3-2-1 exit ticket
  - Give me three tips for creating a secure password.
  - Give me two reasons for creating a secure password.
  - Write one question you still have about secure passwords.

Enrichment

- Students will use a Caesar Cipher to encrypt an original password they have created.
- Students will use [How Secure is My Password?](#) to check the encrypted password they created using a Caesar Cipher.
- Students will also then check their own personal passwords to see if they are secure.
- Mathematical applications: permutations, combinations, probability, frequency, ratios, percentages

