



# Powerful Passwords

## Lesson Description:

As students start to engage with more technology from more sources, it's important for them to start thinking about how to protect their information. Students should understand the need for good passwords with all of the accounts they will end up using in and out of school.

Students explore why people use passwords, learn the benefits of using passwords, and discover strategies for creating and keeping strong, secure passwords.

Students learn password tips, test their existing passwords with an interactive game, and create new passwords using guidelines for powerful passwords.

## Prerequisite Knowledge:

- Knowledge of what a password is
- Why is a password important

## Length of Completion:

75 Minute Class Period

## Level of Instruction:

This lesson is intended for 6th grade technology class.

## Applicable Concepts:

### GenCyber Cybersecurity Concepts

Availability

Confidentiality

Integrity

Defense in Depth

Think Like an Adversary

Keep it Simple



## **Resources that are Needed:**

Student Password Handout Sheet - [Password Tips Student Handout.pdf](#)

Strong Passwords Sheet - [Common Sense Media Strong Passwords Lesson Plan.pdf](#)

Passwords Video - <https://www.youtube.com/watch?v=QgfBk2x5IOA>  
[Password Slideshow](#)

## **Accommodations Needed:**

Different colored handouts if needed for visually impaired students

## **LEARNING OUTCOMES**

### LESSON LEARNING OUTCOMES

- Understand the functions of passwords.
- Identify strategies for creating and protecting secure passwords.
- Create their own secure passwords using the lesson guidelines.

## **LESSON DETAILS**

### **Interconnection:**

Introductory lesson

### **Assessment:**

[Summative Assessment](#)

[Formal Assessment](#)



## **Extension Activities:**

Password Haystack is a website that allows users to type in a password and it will tell students how long it could take a hacker to crack their password.

<https://www.grc.com/haystack.htm>

## **LESSON**

### **Lesson 1 Details:**

#### **Warm Up- Class Discussion: (15 Minutes)**

Ask: What is a combination lock? (You can hold up a real combination lock to show students for effect.)

Explain that you can only open a combination lock by turning the dial in a secret combination of numbers that is hard to guess.

Ask: Do you ever use a combination lock? If so, what for?

Define the key vocabulary term password - a secret word or phrase that some websites require you to type in if you want to visit them.

Explain to students that online passwords are similar to the combinations for a lock. They are secret combinations of letters and numbers that only you know. Passwords keep other people from seeing your private information on the Internet. For example, tell students that passwords allow them to save their points after playing an online game. When they're older, they will use passwords to do many things, such as keep track of their money or shop online.

Define the key vocabulary term protect - to keep safe.

Explain that knowing how to create powerful passwords will prevent other people from pretending to be them and help them keep their private information and money secure. Passwords protect one's identity and information.



Ask: How would you feel if someone else used your password and pretended to be you on one of these sites? For instance, what if someone used your password to steal points that you have collected in a video game?

### **Main Activity: (50 Minutes)**

Have students complete the Powerful Passwords - Worksheet, making their best guesses about whether statements should begin with a DO or a DON'T.

Review answers with students once they are finished. Encourage students to correct their handouts so that they can refer to the tips in the future. Here are the correct answers and sample explanations:

1. DO make passwords eight or more characters long. (Longer passwords are harder to crack than shorter ones.)
2. DON'T use dictionary words as your password. (Others could guess your password this way.)
3. DO include letters, numbers, and symbols in your password. (It can be harder to guess passwords with this combination.)
4. DO change your password at least every six months. (This way, even if someone does guess your password, they won't be able to get into your account for long.)
5. DON'T use private identity information in your password. (Others could guess your password this way.)
6. DON'T use your phone number as your password. (Others could guess your password this way.)
7. DON'T use your nickname as your password. (It could be easy for others to guess.)
8. DO give your password to your parents or guardians. (They will help you remember it if you forget it.)
9. DON'T share your password with your friends. (Even if you trust them, they might unintentionally do something that puts you or your information at risk.)
10. DO create a password that you can remember. (It's okay to create a random password, but keep in mind that it should be one that you can remember, or else it won't do you much good.)



Ask: Which tips did you know? Which ones surprised you?

Remind students that they should not carry their passwords with them, tape them to their computers, or share them with friends. It is also wise for students to let trusted family members know about their passwords. They can help students find a safe place to store their written passwords.

Make a Secure Password

Define the Key Vocabulary term secure - safe and protected. Tell students that you will now practice creating a new, secure password. Distribute four blank index cards or strips of paper to each student. Instruct students to write down an answer for each of the following categories, one per blank index card or strip of paper:

- Favorite number
- Pet's name, or favorite character's name
- A symbol (#, \$, %, \*, or &)
- Favorite food

**Wrap Up: (10 Minutes)**

Flash Chat: What did we learn?

Ask:

- What is a password?
- Why are strong passwords helpful?
- What are some DOs and DON'Ts to remember about powerful passwords

---

**Lesson Created by:  
Matthew Brue as a part of the Dakota State University GenCyber  
Teacher Camp 2021.**