



Essential Question: How do you create a secure password?

Learning Overview and Objectives

Overview: Students explore reasons 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. For the Extension Activity, they help test the passwords of their parent or guardian.

objectives

Students will:

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

Materials and Preparation

Estimated time: 45 minutes

Materials

- **Dos and Don'ts of Powerful Passwords Student Handout**
- Blank index cards or strips of paper (six per student)
- Chalkboard or white board

Preparation

- Copy the **Dos and Don'ts of Powerful Passwords Student Handout**, one for every four students

Parent Resources

- Send parents the **Security for Elementary Students Parent Tip Sheet**
- Send parents the link to the **Tech Talk: Beyond Internet Safety Video**

Key Vocabulary

- **Password:** A secret word or phrase that some websites require you to type in if you want to visit them
- **Symbol:** A shape or sign that stands for something else
- **Secure:** Safe and protected



teaching plans

Introduce

ASK *What is a combination lock?* (Students will offer a variety of definitions.)

You can hold up a real combination lock for students for effect.

EXPLAIN that you can only open a combination lock by turning the dial in a secret combination of letters and numbers that is hard to guess. **DISCUSS** with students that people use locks to keep their belongings safe and protected.

ASK *Do you ever use a combination lock? If so, what for?* (Locker, bicycle, safe, etc.)

EXPLAIN to students that online passwords are similar. They are secret combinations of letters and numbers that only you know and that 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'll use passwords to keep track of their money and shop online. **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.

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?*

Sample responses:

- *Angry, because my privacy has been broken*
- *Worried that someone might pretend to be me online*
- *Fearful that someone can find out private information about me through my account*

Teach 1: Dos and Don'ts of Powerful Passwords

HAVE students complete the **Dos and Don'ts of Powerful Passwords Student Handout**, making their best guesses about whether statements should begin with a "Do" or a "Don't."

REVIEW the correct answers with students when they are finished. **INVITE** them to explain their reasoning for starting each statement the way they did. 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 parent or guardian. (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?

Teach 2: Test Your Password

TELL students that they are now going to play “Test Your Password,” a game that tests how secure their passwords are. Have students line up against one wall of the classroom, or go to a bigger space, such as the playground. Tell students that you will call out statements about their password. Let them know that you will call out statements and directions for what to do in response.

Statement 1: You change your password at least every six months. (Take three steps forward.)

Statement 2: You use your nickname as your password. (Take two steps back.)

Statement 3: Your password includes letters, numbers, and symbols. (Take three steps forward.)

Statement 4: Your password has less than eight characters. (Take one step back.)

Statement 5: You haven't changed your password in two years. (Take four steps back.)

Statement 6: Your password has at least eight characters. (Take two steps forward.)

Statement 7: You let your friends use your password. (Take two steps back.)

Statement 8: No one except you and your parent or guardian knows your password. (Take two steps forward.)

Statement 9: Your password has no private information. (Take three steps forward.)

Statement 10: Your password is a word in the dictionary. (Take two steps back.)

Statement 11: Your password is hard for you to remember. (Take two steps back.)

Statement 12: Your password is not your home phone number. (Take two steps forward.)

Teach 3: Make a Secure Password

TELL students that you will now practice creating a new, secure password. Have students break into groups of four.

DISTRIBUTE six blank index cards or strips of paper. **INSTRUCT** students to write down the following categories, one on each blank index card or strip of paper:

- Year of birth
- Pet's name
- Favorite sport or activity
- A symbol (#, \$, %, *, or &)
- Favorite character from a book, TV show, or movie
- Favorite food



ASK one student at each table to collect and shuffle all the filled-out index cards or strips of paper and place them in a pile, face down, in the center of the table. Then have each student select four index cards or strips of paper. (If students select duplicate categories, they should select again until they get a new one.)

HAVE students use bits and pieces of the four strips of paper they received to create a new password. They should create and write down the password, keeping in mind the Dos and Don'ts tips they discussed earlier. When they've finished, have them share their new passwords with the group. Ask each group to vote on which password they consider the strongest.

INVITE each group to share their winning passwords with the class. Write them on the board. Then have the class vote for the best password.

ASK *Why is this password powerful?*

Wrap Up and Assess

You can use these questions to assess your students' understanding of the lesson objectives.

ASK

What do passwords do? How are they helpful? (Strong passwords help to protect our information from being accessed or seen by others.)

What are some dos and don'ts to remember about powerful passwords? (See tips in Teach 1 for sample responses.)

REMINDE students that passwords should not be carried with them, taped to their computers, or shared with friends. It is wise to let trusted family members know about their passwords and to help them find safe places to keep their passwords written down.



Extension Activity

Show students how to create a password that is both hard to guess and relatively easy to remember. Suggest that they write down the name of a book or a memorable line from a favorite song. They should then abbreviate the phrase, replace some of the letters with numbers and symbols, and make some letters uppercase and some lowercase. For example, "Clifford the Big Red Dog" could become ClifB1Grd. You can also have students make new passwords with an online password generator, found at: www.maord.com.

**Homework**

Have students test the password of a parent or guardian. Students should bring home their completed **Dos and Don'ts of Powerful Passwords Student Handout**. They should ask their parent if they can test their passwords based on the Dos and Don'ts they learned at school. Students should give their parents one point for each correct answer, and they should subtract one point for each one that is incorrect. Students can share their parents' scores when they return to class.

Alignment with Standards – National Educational Technology Standards for Students® 2007

(Source: International Society for Technology in Education, 2007)

2. Communication and Collaboration

- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats

5. Digital Citizenship

- a. advocate and practice safe, legal, and responsible use of information and technology
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity

Common Sense Media is an independent, nonprofit resource that helps families and educators teach kids how to be safe and smart in today's 24/7 media world. Go to www.commonsensemedia.org for thousands of reviews and expert advice.