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Safety and Security Online: Grades 6-8

Strong Passwords

Download [Student Sheet\(s\)](#) for printout in PDF format.

Read a [Letter to Educators](#) about Internet safety and security from CyberSmart!

Overview

Students learn how to create secure passwords in order to protect their private information and accounts online.

Objectives

- Identify the characteristics of strong passwords.
- Apply characteristics of strong passwords to create new passwords.
- Communicate secure password practices to family members.

ISTE National Educational Technology Standards for Students © 2007

Source: [International Society for Technology in Education](#)

2. Communication and Collaboration
 - a. interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media.
 - b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
3. Research and Information Fluency
 - b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
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.

Home Connection

Download the [Home Connection](#) sheet related to this lesson.

Site Preview

Several Web sites are recommended for the optional Extend activity:

- [random \(password\)](#)
- [Secure Password Generator](#)
- [Secure Random Password Generator](#)
- [Random Password Generate Online Service](#)



An optional strategy for using [Web 2.0 tools](#) with your students is recommended under Teach 4.

Materials

- Activity Sheet (1)

Introduce

- Have students list all the ways they protect nonelectronic possessions from being stolen or used by others

(locker combinations, apartment and house keys, bicycle locks, and so on). Next, have them list all the ways they use passwords with electronic devices (computers, online accounts, cell phones).

- Point out that passwords also protect accounts from being used by others and having private identity information stolen.
- Explain that the older students get, the more important password security will become to them—to protect their social networking profiles when they are in high school, to keep their grades private when they are in college, and to protect their bank accounts and online store accounts when they are adults.

Teach 1

- Distribute Activity Sheet 1 and review each of the eight security tips for managing passwords.
- Have students infer why each tip is effective. If they are not sure, offer the following.
 - Only your parents should know your password. Never give a password to anyone else—not even your friends—because your friends can use your password to pretend to be you or to harass other people. They could also give it to other people.
 - Don't use passwords that are easy to guess—like your nickname or your pet's name—because people who know you well can guess these kinds of passwords.
 - Never use any private identity information in your password because identity thieves can use this information to pretend to be you.
 - Don't use a word in the dictionary as a password because hackers use programs that will try every word in the dictionary to guess passwords.
 - Create passwords with at least eight characters because the fewer the characters, the easier it is for hackers to try every combination of characters.
 - Use combinations of letters, numbers, and symbols, which are harder to crack than just words because there are more combinations to try.
 - Change your password regularly—at least every six months—because the longer you use the same password, the more likely it is that someone will guess it or use a program to find it.
- Make sure students are familiar with the forms of private identity information listed in the Be CyberSmart! box, and discuss an important safety and security rule: Do not give out private identity information without permission of a teacher, parent, or guardian.

Teach 2

- Have students read and discuss the scenario about Jesse. They should recognize that Jesse's password is too obvious a choice, easily guessed by people who know him, and therefore not secure. Have students identify the password tips it does and does not follow.
- Have students read and discuss the scenario about Sondra. She chose her password by combining part of her first name (so), her favorite activity (swim), and the numbers of her birth month (8) and day (4). It is a safer choice because she used no complete personal identity information, and she combined at least eight letters and numbers. Have students evaluate Sondra's password and describe the additional tips she could follow.

Teach 3

- Have students follow the directions for the activity at the bottom of their sheet. Suggest that they make up a sentence that is meaningful to them or use the first line in a favorite saying or song. For example, Jesse could use "Go Jayhawks basketball" to make the password "g0jHkz#bll" and Sondra could use "she sells three sea shells by the seashore" to make the password "s\$3CshxtCshr"

Teach 4: Take Action

- Challenge students to create posters that will communicate the password tips and help their families and other students keep their identities secure. You may wish to assign one tip to each student, resulting in a series of tips that can be posted together or rotated throughout the year.



Use digital-imaging technologies to create and reproduce posters. Use [Web 2.0 tools](#) to publish students' posters on a class Web site, a blog, or a wiki.

Assess

The following items assess student mastery of the lesson objectives.

- **Ask:** *What are some tips for having strong passwords?* Which ones do you think are most important to follow? Encourage students to collaborate to recall as many of the eight tips as they can. Have student explain why they think a particular tip is important.
- **Ask:** *Which tips are easiest to follow? Which are hardest?* Have students explain their reasoning. (Answers

will vary.)

- **Ask:** *How can we remind ourselves, other students, and our families to keep their passwords secure?* (Answers will vary.)

Extend

- Students will benefit by revisiting this lesson each year.
- For students who completed this lesson in a previous grade, explain that although they are harder to remember, random combinations of letters, numbers, and symbols are the safest passwords. Teach students how to create a random password. Obtain three number cubes. Use stick-on labels to replace the numbers on one cube with six letters. Replace the numbers on another cube with six keyboard symbols. Leave the third number cube as is. Have students put the three cubes in a paper bag and choose one at a time, roll the cube, and record the character. Do this eight time to get a random password with eight characters.
- Have students do online research to learn about random password generators by going to <http://www.cybersmartcurriculum.org>, clicking on the diamond, and finding links to free random password generator Web sites under the name of this lesson.
- After students explore the sites, discuss the pros (very hard to crack) and cons (can be hard to remember) of using random passwords.



Use digital-imaging technologies to create and reproduce posters. Use [Web 2.0 tools](#) to post the posters on your school's Web site, a blog, or a wiki.

Cyber Safety and Security Awareness Activities for Your School, Families, and Community

Extend this classroom lesson with activities that will support a [cyber safety and security awareness campaign](#) for your school, families, and community.



includes strategies for using interactive online [Web 2.0 tools](#).

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