



Lesson Plan 15: Creating Strong Passwords

Lesson Overview: In this lesson, students will identify requirements for strong passwords and create a strong password that is strong but easy to remember.

Lesson Objectives:

Students will:

- Identify requirements for strong passwords.
- Use two processes for creating a strong password that is easy to remember.
- Use safe practices for storing a password.

Materials and Setup:

Technology/Equipment

- An Internet- and audio-enabled computer, projector, and screen
- A document camera is highly recommended

Supplies/Teacher Materials

- Whiteboard and markers
- Small index cards, card stock, or regular paper that are cut into small strips and can be folded and inserted into a wallet for safekeeping. Create at least one strip per student and a few extra in case students make mistakes and want a new blank paper slip.

Student Handouts

- Handout 1: Requirements for a Strong Password
- Handout 2: Five Steps to a Strong Password
- Handout 3: Substituting Numbers and Symbols for Letters

Online Resources

- [YouTube Playlist: Creating Strong Passwords](#)
 - Video 1: Requirements for a Strong Password
 - Video 2: What's Wrong with this Password?
 - Video 3: Five Steps to a Strong Password
 - Video 4: Help with Step 2 Question Boxes
 - Video 5: Katy Makes a Strong Password
 - (Optional) Video 6: Win Makes a Personal Password

Instructional Tips

- **Full Integration of Media Content:** Perhaps more than other lessons, Lesson 12 is very reliant on the use of lesson handouts and YouTube videos to transmit concepts related to creating usernames and passwords.

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- **Methods for Creating a Memorable Password:** The process of creating a password that is strong must also ensure that a password is easy for the user to remember. This lesson provides 2 methods that students can follow to create strong but easy to remember passwords. The first method uses 4 questions that when answered and connected create a strong password. The second method uses a phrase or short sentence and then has students substitute some of the letters with symbols and numbers.
- **Key Vocabulary:** You may want to ask students to label a page in their notebooks for this lesson's key vocabulary and have them write down each of the words as you explain their meanings in the context of the lesson. Ask students to write down the meaning of the word in their own language.
- **Keyboarding Practice:** Ask students to text the practice passwords they create with Handouts 2 and 3 to themselves or to your Google voice phone number.

Standards

Adult English Language Proficiency Content Standard(s)

- 2.1. Participate in level-appropriate oral and written exchanges of information

CASAS Content Standard(s)

- L2.9: Comprehend specialized vocabulary (e.g., technical, academic)
- S2.9: Use specialized vocabulary (e.g., technical, academic)
- R1.1: Identify the letters of the English alphabet (upper and lower case)
- R2.1: Interpret common symbols
- W1.1: Write the letters of the English alphabet (upper and lower case)
- W4.5: Use specialized vocabulary (e.g., consumer, work, field of interest)

Seattle Digital Equity Initiative Skill(s)

- EF.8: Get an Email Account / Set up an email account (*Note that this lesson addresses setting up an account login with a username and password. However, the student does not create an email account.*)
- EF.10: Create Safe Passwords / Password basics: creation, safe storage, resetting
- WO.2: Follow Workplace Rules and Policies / Follow workplace IT & social media policies and security rules

Northstar Digital Literacy Standards for Essential Computer Skill(s)

- Using Email 5: Register for a new ... account, using a professional user name and a strong password.

Key Vocabulary

- how long / how many?
- recommendations
- easy to remember
- old password
- sentence
- phrase
- change / substitute
- question boxes
- **Reinforced vocabulary:** strong, weak, need to / must /can, follow, rules, requirements, how long / how many? space(s) (in text)

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ENGAGEMENT

- **Say:** Let's review strong and weak passwords. Here are 2 passwords. Which one is weak and which one is strong? (Write the following 2 passwords on the board: DanRojas@2022 and D@nR0j@\$@2oto2.)
- **Ask:** Why is DanRojas@2022 weak? Why is D@nR0j@\$@2oto2 strong?
- **Say:** Here are 2 more passwords. (Write HoustonRex1937! and HoustonTexas on the board.)
- **Ask:** Which one is weak and which one is strong? (Take responses.) Why is HoustonRex1937! strong and HoustonTexas weak?
- **Say:** Today we will learn the requirements for making strong passwords. But we will also learn how to make passwords that are easy for you to remember.

EXPLORATION

- **Say:** I'm going to show you a video about the requirements to make a strong password. Here is a handout with the requirements, so you can always have them with you.
- Pass out **Handout 1: Requirements for a Strong Password.**
- **Say:** I will stop the videos sometimes so you can find the requirements on your handout.
- Open the [YouTube Playlist: Creating Strong Passwords](#) and play **Video 1: Requirements for a Strong Password.** Stop the video as you feel necessary to have students find the requirement on their handouts that matches the video you are playing.
- **Say:** We're going to see a video now with some passwords that are not strong passwords. You need to tell me what's wrong with them.
- Play **Video 2: What's Wrong with this Password?** (Stop after each example so students can let you know why the password is not a strong password. Also, ask them to tell you what to do to make it a strong password.)
- **Say:** Please save your handout on requirements for making a strong password. Use it when you make passwords. (Ensure that students store Handout 1 in their class notebooks.)

EXPLANATION

- **Say:** Sometimes, a password can be strong, but it can also be hard to remember. How do you remember important things? (Wait for responses.)
- **Say:** I am going to show you 2 ways to make a password that is easy for you to remember but also very strong.
- **Say:** Let's learn about the first way. You will answer 4 questions to create your password.
- **Say:** We're going to watch a video called *Five Steps to A Strong Password*.

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- Play **Video 3: Five Steps to a Strong Password**. Stop the video as needed to check for understanding and repeat the video one or two times as necessary.
- **Say:** Here is a handout with the 5 steps and the question boxes.
- Pass out **Handout 2: Five Steps to a Strong Password**.
- **Say:** Find Step 2 on the handout. What is it called? (Wait for response of “Question Boxes.”)
- **Say:** The Question Boxes are important to understand. We’re going to watch a video about Step 2.
- Play **Video 4: Help with Step 2 Question Boxes**. Stop the video to check for understanding as necessary. Also have students match the video to the steps on their handout.
- For the next video, the optimal technology set up is for the teacher to have the video projecting to the screen and also projecting Handout 2 to another area on the wall using a document camera. In this way, the student can follow the teacher as they follow the steps on Handout 2 to create a strong password. If your students would identify more with a middle-aged Hispanic female, play **Video 5: Katy Makes a Strong Password**. If your students might identify with more strongly with an older Burmese male, play **Video 6: Win Makes a Personal Password**.
- **Say:** Let’s watch Katy (or Win) make a strong password. Play Video 5 or Video 6 one time through.
- **Say:** I am going to play the video again. I am going to stop after each step so I can make my own strong password.
- Play the video but stop after each step and complete the step on the handout that is displaying to students. Put a check next to each step that you complete.
- **Say:** I made a strong password. I am going to write down the questions I answered. If I forget my password, I can look at the questions. That will help me remember my password.
- **Say:** It’s your turn now to practice making a strong password using the question boxes. You will work with a partner to make at least one PRACTICE password. You will NOT use this password. This password is not for you to use on the computer. This password is only to use today in class. (Facilitate students getting into pairs and creating at least one password together. Encourage them to make more than one as time permits.)
- **Say:** You and your partner need to follow the steps on **Handout 2: Five Steps to a Strong Password**. Remember to use your **Requirements for a Strong Password** list to check that your practice password is strong.
- When students finish, ask one of the students in each pair to call out ONE of their practice passwords to the teacher. Write the password on the whiteboard or overhead display. Allow the class to decide whether or not each password meets the criteria and why.
- **Say:** Remember that these passwords are PRACTICE passwords. Do not use these passwords. You should never share YOUR passwords.

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ELABORATION

- **Say:** Now we'll go through the second way of making a password. This way uses phrases or short sentences to make it easy to remember the password. Then you change some of the letters to make the password strong.
- Write the following on the board: H3!!0Fr!3nd\$
- **Ask:** Do you see anything that looks like words in this password? (Take responses; you may have no student recognize any words.)
- **Ask:** What if we change the exclamation marks to the letter L? (Write H3ll0Fri3nd\$.) Do you see any words now? (Take responses.)
- **Say:** Now we will change the 3 to an e. (Write HelloFriend\$.) What do you see now? (Take responses – students will probably see the words Hello and Friends at this point).
- **Ask:** What other letters do we need to change? (Take responses.) The zero needs to be the letter o and the dollar sign needs to be the letter s. (Write HelloFriends.)
- **Say:** Many people use 2 or 3 words that they can remember for their password. But they change the letters to numbers and symbols. This makes the password strong.
- **Say:** Let's look at a few more examples. First, I will write down the letters and their substitutions. (Write substitutions on the board.) Substitute means to change one thing for another. In the password, we changed the letter i to an exclamation mark. We also changed the letter l to an exclamation mark. (Write on the board, "i and l --> !.")
- **Ask:** What else did we change? (Take responses.) The letter e changed to the number 3. The letter o changed to a zero. And the letter s changed to a dollar sign. (Write these on the board: e-->3; o --> 0 (zero); s-->\$.)
- **Say:** Here is a handout to practice making a strong password that starts with a few words. (Distribute **Handout 3: Substituting Numbers and Symbols for Letters.**)
- There are 2 parts to the handout. Introduce each part separately and start each part with the whole group to ensure everyone understands what to do. Then ask students to spend time working alone or with a partner. Check answers together.
- When students finish, ask them to write their practice passwords on the board. As a class, make sure that the passwords are strong.

H3!!0Fr!3nd\$
H3ll0Fri3nd\$
HelloFriend\$
HelloFriend\$
HelloFriends

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EVALUATION

- **Pass out** the small strips of paper you have cut out prior to class.
- **Say:** You are going to write down a NEW strong password on this paper. This paper is SECRET. It is PRIVATE. Do not let people see your paper, not even me, your teacher.
- **Say:** You can use the question boxes to make your secret password. Or you can start with a few words and substitute numbers and symbols for letters. **Ask:** Who wants to use the question boxes? (See a show of hands.) Who wants to start with a few words and change the letters to numbers and symbols? (See a show of hands.)
- **Say:** When you finish making your secret password, write it on this paper (hold up the paper you handed out in strips or small cards.)
- **Say:** Remember to use your **Requirements for a Strong Password** list to check that your password is strong.
- **Say:** When you finish, fold your password so no people can see. (Demonstrate how they can fold the slip of paper in half.)
- **Say:** Do not let other people see your password.
- Facilitate the process with students. Wait until students have written down their passwords and folded their slips of paper in half.
- **Say:** You must put your password in a SECRET place. Do not share your password.
- Give time for students to put away their passwords; a good place is in their wallets if they have access to them during class.
- **Say:** You will need your password for our next class. Bring the password with you.

Differentiation Resources to Meet Diverse Learner Needs

For beginners:

- If you have students who need repetition as well as your direct instruction, you can text them the link to the video playlist so they can view all of the videos prior to the class and then follow the lesson plan as is. This gives learners a second viewing of the content. Alternatively, you can ask students to view the videos again after the class to reinforce new language and concepts.
- Students who entered the class non-literate in their own language or whose native language uses a non-Roman alphabet (for *example*, Burmese) may need special support. If you have a higher-skilled student of the same language, ask the student if they can be a peer teacher, or "teacher helper," who can work one-on-one with the lower-skilled students. If not, you may need to provide one-on-one assistance and use a tool such as Google translate on your phone (which has an audio feature) to ensure that the basic information is getting across.