

Lesson Plan:	Passwords	Grade Level:	Middle School
Objectives:		Materials:	
<ul style="list-style-type: none"> • Students will understand the importance of creating strong and unique passwords • Students will learn about the risks associated with weak passwords and password reuse. • Students will be introduced to password managers as a tool for password storage and security. 		<ul style="list-style-type: none"> • Whiteboard, chalkboard, smartboard, or projector • Computer or tablet with internet access • Random Number Generator • Password Generator Worksheet (printable) • Password Generator Topics (printable) • A tournament bracket • Scissors • Container for paper cut outs 	
Introduction:			
Ask students how they keep their passwords safe. Do they use the same password for multiple accounts? Do they share their passwords with friends? Explain that password security is an important aspect of online safety.			
Activity 1: Create Strong & Weak Passwords			
Divide the class into groups of 3-5. Each group will need the topic sheet printable. Have the students cut out the topics and place them in a container or a pile on their desks. (Alternatively, these slips of paper can be prepared ahead of time and reused.) Using Google's random number generator with the lowest number being 8 and the highest number being 32, generate a number. This number is the minimum number of characters for the password or phrase the students need to create. Have each student in the group select a topic. Their passwords must contain something that relates to that topic. Have the students write down their passwords on the worksheet. Encourage them to include numbers, symbols, and upper and lowercase letters. Repeat until the worksheet is filled. Remind the students to not use any of their real passwords as answers.			
Activity 2: Password Battle Royale			
Project (or draw) a tournament bracket on the board. There are several options for tournament generators online: https://challonge.com/tournament/bracket_generator https://tournamentmgr.com/bracket-generator Have each student submit a password (it can be strong or weak). If you have an odd number of students, submit a password of your own. This can also be done as teams if class size is too large for each student to submit a password. Using the rules you learned about passwords, determine which password will move on to the next round of the tournament. Repeat until there is one ultimate password. (Bonus: try to determine the weakest password.) If you encounter a tie or cannot decide which password should continue on, there are several sites that can measure your password strength such as: https://bitwarden.com/password-strength/ https://www.uic.edu/apps/strong-password/			

Discussion Questions:	Possible Answers/Prompts:
<ol style="list-style-type: none"> 1. Why is it important to use strong passwords? 2. What are some common characteristics of weak passwords? 3. What are some strategies for creating strong passwords? 4. Why is it important to use a unique password for each account? 5. Why is it important to not share passwords? [The exception is with your parents for your safety.] 	<ol style="list-style-type: none"> 1. To protect personal informations and prevent unauthorized access to online accounts. 2. Easily guessable information such as names, dates, or common phrases or using common dictionary words, sequences such as "1234" or "abcd," or using short passwords with no special characters or numbers. 3. A mix of upper and lowercase letters, special characters, and numbers, using longer passwords (12 characters or more), use passphrase or sentence based passwords, don't use personal information. 4. It is important to use a unique password for each account because if one password becomes compromised then other accounts could also become compromised. 5. Sharing passwords puts personal information and security at risk. If passwords are shared it is difficult to trace the source of suspicious activity on an account.
<p>Conclusion:</p>	
<p>Have students reflect on what they have learned about passwords. Ask them to share one thing they will do differently in the future when creating passwords.</p>	

Sports

Gardening

Movies

Song Lyrics

Travel

Food

Historical Events

Fashion

Art

Science

Books

Animals

NAME:

DATE:

Password Warriors

You will be creating passwords to go into battle. Only the strongest password will prevail. Your instructor will provide you with a random number that indicates the minimum number of characters you should have in your passwords. Write this number in the space provided. Each group member will select one topic for their passwords. Write this topic in the space provided. Now using that number and topic create a password and record it in the space provided. Be sure to use a variety of upper and lowercase letters, numbers, and symbols. Repeat this process until you have filled in all the passwords. Now, based on what you learned rank your passwords from strongest to weakest (5 stars being the strongest and 1 star being the weakest). Your instructor will ask for you to submit one of these passwords to the Password Warrior Tournament. Feel free to submit any password, even a weak one.

Characters **Topic** **Ranking**

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Characters **Topic** **Ranking**

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Characters **Topic** **Ranking**

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Characters **Topic** **Ranking**

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