Teaching Password Managers

Class Activity:

- Divide students up into three groups.
- Two of those groups will be "house owners with common keys" (group 1) and "house owners with less common keys" (group 2), respectively. Each member of these groups will own three houses.
- The third group (group 3) will be "burglars", or criminals who want to break into the houses and steal from the other two groups.
- Give each member of group 1 "common keys", or objects that look physically the same (e.g. pieces of paper that are all the same color). Give each member one each. Each member's key will unlock all three of their houses.
- Give each member of group 2 "less common keys", or objects that look physically very different from one another (e.g. pieces of paper that all have a uniquely colorful pattern). Give each member three each, or one for each house they own.
- Give group 3 whatever remains of the "keys", including any "less common keys" or any "common keys".
- Members of group 3 can easily break into any of the houses of group 1, since the members of group 1 all have "common keys" which are widely available and all of the houses use the same key.
- On the other hand, members of group 3 will have a much harder time breaking into houses of group 2, since they all have "less common keys" that are very unique, and since each house has their own key.
- However, it might be harder for group 2 to keep track of all of their unique keys and which one goes to which house.
- Therefore, they can use a "keyring", or a ring that organizes the keys and has a label for each of them, showing which house it's for.
- Group 1 sees how much better off group 2 is, and they decide to get all unique keys too.
- Now group 3 (the burglars) can't break into any of the houses!

Lesson:

- All passwords can be represented as physical keys, since they can lock and unlock accounts, computers, etc., like a key can lock and unlock someone's front door.
- Common passwords (e.g. "123456" or "password") could be compared to the "common keys", or keys that are widely available and that just about anyone can pick up
- Since these "keys" are very accessible, most people probably wouldn't want to use it on their front door since just about anybody could get in
- Stronger, more unique passwords (e.g. JsgA&Lu1h8#4$dK) are like the "less common" keys and therefore more secure. Could be compared to keys that nobody but one person (the owner) has access to.
- Ask the students: which do you prefer for your front door, the common key or the less common key? (**Answer should be the less common :-)**)
- However, there is a problem with less common keys
- It can be tiring and sometimes frustrating keeping track of all of your unique keys and which one goes with each online account
- This is why it is important to use a password manager
- Password managers are like a "keyring"; they help to remember all of your unique keys and keep them organized so that you never forget them
- They can also help you to come up with unique keys when you're creating a new account, and then store them right after