# Activities for Password Posters For Elementary and Middle School Students

## Overview
There are three password posters for this grade span. We recommend that these be hung together, either vertically or horizontally, in the order noted below and in a location you can easily point to. The bite-sized activities associated with each poster require 10-15 minutes offline and are structured to encourage discussion among students. They can easily be reused yearly.

## Goal
To provide students with a simple checklist of what makes a strong password, while engaging them in creative and critical thinking to explore the concepts behind each tip on the checklist.

**Introduce:** *It's important to have a strong password to protect us online. Each poster (point to three posters) reminds us of one way to check if our password is strong. The stronger our password is, the more difficult it is for someone to pretend to be us. Each poster of these three posters reminds us of one way to check if our password is strong. Let's look at one today.*

**Optional Discussion: "What Does a Password Do?" (5-10 minutes)**

**Ask**: *What is a password?*
Guide students to understand that passwords are the key to our personal digital information and identity.  Students might say that passwords are like secret codes that you make up, or are like house keys that protect our house.

**Ask**:  *What would happen if you shared your password with a friend?*
Answers will vary depending on age of students. Answers may include variations of "She could get to my screen name and my buddies would think I'm texting them when she really  is," or "He could sign on as me to my favorite game" "She could get onto my Club Penguin account" or simply "She could pretend to be me."

**Conclude**: W*e never share our password with anyone except our parents or guardian. We also want our password to be strong, so no one can guess it.*

## Using the Poster "My Password Is Long Enough" (15 minutes)

**Display to the poster and ask:** *Why do you think a long password is stronger than a short password?*

Guide students to consider that it's harder to guess a long password.

**Conclude:** *Experts who have studied passwords have determined that a password should be at least eight characters long. That's long enough that it is*

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*not easy to guess but short enough that you can memorize it. (Point to posters.) A strong password must get not just one check, but all three checks shown on the posters. Today we learned that to get this check (point to poster) our password should have at least eight characters.*

### Using the Poster "My password mixes upper and lower case letters, numbers, and symbols" (15 minutes)

**Display to the poster and ask**: *What do you think this means?* Let's explore together *why mixing upper and lower case letters, numbers and symbols makes our password* stronger.

**Write:**
abc123##

A1b#3$2c    This password is stronger. Why?

**Ask**:  *Both of these passwords use numbers and letters and symbols. But the bottom one is much stronger. Why?*

Guide students to infer that it would be much harder to guess the bottom password than the top password. Students should consider the following:

- the top password uses only lower case letters, the bottom one uses both upper and lower case
- the top password uses the letters in sequence, the bottom password mixes the numbers up
- the top password uses numbers in sequence, the bottom one mixes the numbers up
- the top password repeats the same symbol twice, the bottom password uses two different symbols

**Explain**: *The more guesses it takes to figure out a password, the stronger the password is.  A more mixed up a password is the harder it is for someone to guess it.*

**Conclude**: *Experts have determined that a password with a mix of upper and lower case letters, numbers, and symbols is harder to guess. (Point to posters.) A strong password must get not just one check, but all three checks shown on the posters. Today we learned that to get this check (point to poster) we need a mix-up of letters, numbers, and symbols.*

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**Using the Poster "My password uses my own secret message!" (15-30 minutes)**

**Materials**: Paper and pencil

**Display to the poster and ask:** *How could you make a secret code that would be easy for you to remember but hard enough that no one else could guess it? What if you first took the name of a favorite book, or a favorite movie or part of a funny joke that you could easily remember and then wrote it in a secret code?*

**Explore this example on the board**: Show how "Nancy and Jeff Are Three" becomes the password nanC&JEFFr3. Lead students to explore how you have taken an easy phrase to remember and substituted letters with symbols and numbers. Point out the use of upper and lower case, the use of a number and the use of the symbol for "and".

**Students explore**: Have students create their own private codes. Instruct them to draw a table with two rows and eight columns. In the eight boxes on the top have the students write a letter. In the eight boxes below, have them come up with a corresponding symbol or number that replaces commonly used letters Show students the example below and encourage creativity.

| A | E | I | T | B | S | G | L |
|---|---|---|---|---|---|---|---|
| @ | 3 | 1 | + | & | 5 | 9 | ! |

Allow students time to practice developing their own personal phrases and then applying their letter substitutions. Suggest that they destroy these notes so that they can use the passwords in the future.

Guide students to recognize that using information that is easy for others to figure out does not make a strong password.

**Explain:** *Experts say the trick is to use a code that is not difficult to remember because once you write it down, anyone can find it and copy it. (Point to posters) A strong password must get not just one check, but all three checks shown on the posters.*

**Conclude:** *A strong password must get not just one check, but all three checks shown on the posters. (Point to posters.) Today we learned that to get this check (point to poster) our password we need to come up with a creative password that is hard for others to guess but not so complex that we have difficulty remembering it.*

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