



# CYBER SECURITY BOOT CAMP

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## Authentication

### Session 3



**YELLOW CIRCLE INC**  
PO Box 2383  
Elk Grove, CA 95759-2383

**Teacher Lesson Plan**

# Authentication

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## Session Name:

*Authentication*

## Summary:

*The way a computer understands who it is interacting with. There are three common factors used for authentication: Something you know (such as a password), something you have (such as a smart card or secret token), something you are (such as a fingerprint or other biometric method).*

*Similar to buying a lock to protect your things in your locker at school, you need a lock to protect your Cyber Identity with Authentication.*

## Time Allotment:

*75 minutes*

## Learning Objectives:

- *What is authentication, and process involved*
- *Multi-factor authentication*
- *Importance of strong passwords*
- *New generation of authentication methods (biometrics)*

## Supplies:

- *Scrap paper / notepad to take notes*
- *Top worst passwords worksheet (print)*
- *Laptop / computer with Internet access for research activities*

## Learning Activities:

- **(2 - 5 minutes) - Teacher Introduction**



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*Introduce yourself to students if you are new to the classroom. If you are continuing from a previous session, start with welcome back.*

- **(2 - 5 minutes) - Volunteers Introduction**

*Introduce any new volunteers that might be present. Teachers will be provided with a quick bio of each volunteer who are helping in the classroom. Only new volunteers need to be introduced.*

- **(5 minutes) - Session overview**

*Passwords are the way we access the majority of our information and online accounts. The passwords we use are often weak in a way that would allow hackers to guess them or we use the same password on multiple accounts.*

*If one of those accounts is compromised, then our password to other sites is exposed. E-mail is one of the most-used forms of communication. How secure are the systems that we use daily and what are the implications of insecure systems?*

- **(5 minutes) - Video : What is Authentication?**

*[https://www.youtube.com/watch?v=teV\\_VMpvv5Y](https://www.youtube.com/watch?v=teV_VMpvv5Y)*

- **(10 minutes) - What is authentication?**

*Authentication is the process of determining whether someone or something is, in fact, who or what it is declared to be. It is a process in which the credentials provided are compared to those on file in a database of authorized users' information on a local operating system or within an authentication server. If the credentials match, the process is completed and the user is granted authorization for access.*

*Discuss with students: things that make strong authentication:*

- *Something You Know (Shared Secrets-something known only to you and the "gatekeeper") - Password, PIN number*
- *Something You Are - Biometrics-pictures, voice, fingerprints, retina scan*



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- *Something You Have: Tokens-Phone App, Chip Card, Yubikey*

- **(3 minutes) - Video: What is your password?**

*<https://www.youtube.com/watch?v=opRMrEfAlil>*

*Stop video at 2:40 to avoid show advertisement*

- **(10 minutes) - Student Activity: How secure is my password?**

*Have volunteers pass top worst passwords sheet*

*In groups or as individuals, students can practice password selection.*

*<https://howsecureismypassword.net/>*

- **(5-10 minutes) - Activity review feedback**

*Discuss activity with students*

*What makes password more secure?*

- **(5 minutes) - Video: What is Two-Factor Authentication? (2FA)**

*<https://www.youtube.com/watch?v=0mvCeNsTa1g>*

- **(5 minutes) - Video Discussions**

- *How does two-factor authentication make you safer online?*
- *What are potential problems with two-factor passwords?*
- *What would I tell my friends or family to do to make their passwords more secure?*

- **(2 minutes) - What's next?**

*Inform students to head back to cafeteria for snack break, and remind them to use restroom before next session starts.*