Primary Challenge - Schools Cyber Security Challenge

https://groklearning.com/course/cyber-ps-infosec/

About this activity

The world of cybersecurity can often be inaccessible to school students. This Challenge aims to provide students an authentic and accessible insight into cybersecurity.

The first step in understanding cyber security is knowing how to keep you and your information safe from people and software seeking to do you harm.

In this challenge, students begin by analysing the sharing habits of typical teen characters as they interact on social media.

The two modules of this challenge are:

1. Purposeful sharing
2. Simple passwords

The learning materials include videos by Cybersecurity professionals. The people in the videos were all employees of the organisations they represent at the time of filming, and work in a variety of roles ranging from a security analyst, all the way to the Chief Security Information Officer.

Age

This challenge targets students in year 5 and 6. It is also suitable for students in older years who need to think about their information security and privacy (timing will differ).

Language

No programming languages used.

Time

The Challenge is designed to be completed over 2-3 hours.

Key Concepts

Key Concept	Coverage
Privacy	Freedom from damaging publicity, public scrutiny, surveillance, and disclosure of personal information, usually by a government or a private organization. https://en.wiktionary.org/wiki/privacy
Security	The condition of not being threatened, especially physically, psychologically, emotionally, or financially. https://en.wiktionary.org/wiki/security
Risk	1. A possible, usually negative, outcome, e.g., a danger. 2. The likelihood of a negative outcome. https://en.wiktionary.org/wiki/risk
Ethics	1. (philosophy) The study of principles relating to right and wrong conduct. 2. The standards that govern the conduct of a person, especially a member of a profession. https://en.wiktionary.org/wiki/ethics

Objectives (Content Descriptions)

ICT General Capabilities

Apply digital information security practices	independently apply strategies for determining the appropriate type of digital information suited to the location of storage and adequate security for online environments
Apply personal security protocols	identify and value the rights to identity, privacy and emotional safety for themselves and others when using ICT and apply generally accepted social protocols when using ICT to collaborate with local and global communities

What are we learning? (Abstract)

After completing the modules, students will be able to:

- Determine what information is best kept private
- Explain the difference between good and bad passwords and why

- Be conscious of what they are sharing over time
- Understand risks to personal safety from careless sharing

Module outline

The Challenge consists of four modules:

1. Purposeful sharing
   This module introduces the concept of sleuthing - gathering information from what friends post online. It is always done openly and without malice. Students should start to understand just how much information is being given away online.
2. Simple passwords
   This module introduces students to poor password practices like using very common, easily crackable passwords. Password cracking is always done with the express permission of the characters within the challenge. It's important to also address the ethics of hacking with the students.

Types of component:

Discussion	**Worksheet**	**Computer-based Activity**	
Group Activity	**Unplugged Activity**	**Video**	**Read**
Animation	**Reflection**	**Game**	**App**

New Vocabulary

Privacy: Freedom from damaging publicity, public scrutiny, surveillance, and disclosure of personal information, usually by a government or a private organization.

Security: The condition of not being threatened, especially physically, psychologically, emotionally, or financially.

Risk: A possible, usually negative, outcome, e.g., a danger. *Also* The likelihood of a negative outcome.

Ethics: The study of principles relating to right and wrong conduct. *Also* The standards that govern the conduct of a person, especially a member of a profession.

Unplugged Activity, Discussion : Cyber Security Card Games “Know your risks”

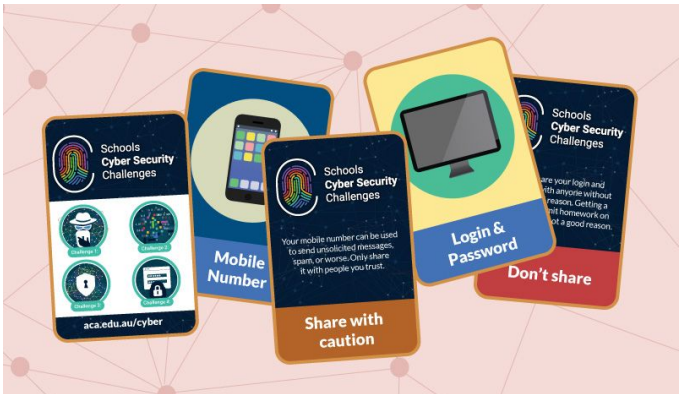
This activity can be done with a printed set of cards or with this interactive powerpoint as a class.

Download the powerpoint and display so the class can see
https://aca.edu.au/resources/cyber-sharing-interactive/
or
Download and print the “Know your risks” cards from the ACA website using the link below.
https://cmp.ac/cyber-cards
Cut them up to play the game - 1 set per 2-4 students.

Aim: To get students thinking about how much information they share, how pieces of information can be joined to form a detailed picture of them and to get students to think about and articulate the risks.

How to play:
There are three categories of cards, **"Don't Share"**, **"OK to Share"** and **"Share with caution"**.

Card game instructions



1. Students are given the cards and told to look at the picture side and in pairs or groups of three to sort the cards into the three piles as quickly as they can (We generally give them a 60-90 second timer to encourage them to think quickly).

2. Students then turn over the cards to see if they put any in the wrong pile (i.e. they disagree with our assessment of the risks).

3. Read the blurb from the back of the cards regarding why we categorised that piece of information this way.

4. Then have a class discussion about what they agree with or disagree with and why. Students who were more cautious than our categorisation should consider whether that's how they actually act on the internet or if they have shared risky information.

Information
Most students we've tested the game with have actually sorted the information more cautiously than we did. The reason we didn't just categorise everything as risky or "not ok to share" is because we want to take into account the realities of social media and how important it is in teenagers' lives... we didn't want to encourage students not to share anything because it's unrealistic.

Computer-based Activity : Cyber Challenge 1: Information Privacy and Security
Complete Module 1 and 2: Purposeful sharing
https://groklearning.com/course/cyber-ps-infosec/

Reflection : Password 'Health Check'

This activity can be done as a class group or assigned as a homework task for students to complete at home. **Ideally this activity should be completed after students have completed the online course**

It is based on a blog titled Cyber security: It's time for a check-up which goes into more detail than appears in the course for Primary students as it also covers content in the senior student course.

Aim: to have students consider their own passwords and the security of them. The goal being to have them change their weak passwords to more secure passwords using what they have learned from the course.

How to do: In groups, ask students to choose an example of a bad password. Go around the room and have each group read out their bad password, students outside the group should say reasons why that password is bad.

Repeat the activity, this time asking students to choose an example of a good password. When they read out their password to the class other groups should give reasons why they are good passwords.

Guidelines for good passwords:

- A *passphrase* rather then a password, at least 12 characters long
    - Giraffesinabottle, mousehouserules, iplaypokemonloads
- Includes symbols or numbers
    - 2020wasatoughyear!, louis16thlosthishead, starwarsepisode3

Bad Password Catching

- Common phrases
    - There are lots of common phrases that are long and easy to remember but **because they are common they are no longer good candidates for passwords.** Especially if students have shared their enjoyment of what the password is baked on in their social media
        - Lukeiamyourfather, iloveyou9000, blueyandfriends12
- Hard to remember
    - Students may get carried away making up passphrases, coming up with overly long or overly complex passwords.
    - Filddesticksbananafairybread45gamerkids - is long, but is **very difficult to remember meaning it is no longer a good password**