

Unit 1—Digital Literacy...

HCCS STEM—Computer Science, IT, Engineering, Food/Nutrition, Business Studies

What do I need to be able to do?

1. I need to be able to **log in** safely using a **strong password** and know how to **save my work** in the right place.
2. I need to know how to stay **safe online**, understand my **digital footprint**, and recognise dangers like **cyberbullying**, **malware**, and **social engineering**.
3. I need to communicate respectfully online using good **email etiquette** and think about how using technology affects the **environment**.

Passwords: It is important to create a **strong password** that is hard to guess but easy for you to remember. A strong password should be a minimum of 8 characters long and include a capital letter, a number, and a special character. You are required to change your default password when you first log in to both the school network and Google Suite.



A **firewall** is a security system protecting your computer/network from unwanted access. It acts as a barrier blocking harmful internet traffic, like hackers or viruses. It checks data and blocks suspicious items to protect personal information and files.

Keywords

Passwords: Necessary for logging into the school network and Google accounts, they should be strong, including minimum 8 characters, a capital letter, a number, and a special character.

Email Etiquette: The way we act sending emails and online messages, involving writing carefully and politely and knowing that bullying or harassment using technology is not tolerated.

Online Safety (also referred to as **E-Safety**): identifying risks when communicating online, and reporting inappropriate content or contact to a trusted adult or service.

Digital Footprint: The traces that online activities leave behind, highlighting the importance of being mindful of them.

Cyberbullying: What it is and how it affects people, and strategies to prevent or deal with it. It is a form of bullying using technology.

Malware: Software designed to harm your computer or steal your information without your permission. Examples include viruses and spyware. Understanding malware and how to avoid it is a learning outcome.

Social Engineering: Where users are manipulated by cyber criminals into giving access to the network. Common forms include phishing, baiting, and skimming.



Malware is harmful software that can steal information or damage your computer. It can slow down your computer or stop programs. A **virus** is a type of malware that spreads by attaching to files. **Spyware** secretly watches online activity to steal

information like passwords or bank details. Understand what they are, their effects, and how to avoid them.

Environmental positive and negative effects. Negative impacts largely stem from the **technology lifecycle**, from obtaining raw materials and manufacturing to usage and disposal, which can cause **pollution**. A major concern is **E-waste**, containing **harmful chemicals** that can have **long-term effects** when old devices are discarded. However, technology also offers **benefits for the planet**, such as using **drones for environmental monitoring**, **robots for efficient processes and less waste**, the development of **electric cars**, and the creation of **alternative energy sources**.

Your **assessment** is titled "Your Digital World: Safety, Ethics, and Environmental Impact". For this assessment, you must create a **multi-format presentation**. You have several format options: a **creative poster**, a **short video** or **digital slideshow**, a **written report** with a maximum of 500 words, or a **combination of these formats**.

10 Test your understanding questions

Here are 10 multiple-choice questions summarising the whole unit:

1. According to the rules for the computer room, what should you do first if you are stuck and need help?

- a) Ask the teacher immediately b) Ask your neighbour c) Look it up online d) Restart the computer

2. What are the essential components required for a strong password?

- a) Your name and a number b) At least 6 characters and a special character c) Only lowercase letters and numbers d) Minimum 8 characters, a capital letter, a number, and a special character

3. Why is it considered important to save your work regularly?

- a) To fill up storage space quickly b) It makes the files load faster c) To prevent the loss of your progress d) To show the teacher you are busy

4. Under which law is it a criminal offence to use school information systems, such as Gmail, for purposes not permitted by the school?

- a) The Malicious Communications Act 1988 b) The Communications Act 2003 c) The Data Protection Act 2018 d) The Computer Misuse Act 1990

5. What is the recommended action if you encounter inappropriate content or contact online?

- a) Ignore it and hope it goes away b) Share it with your friends c) Respond to the person or content d) Report it to a trusted adult or online service

6. Which of the following best describes Malware?

- a) A protective software for your computer b) A type of internet browser c) Software designed to harm your computer or steal information without permission d) An online game

7. What is the primary role of a firewall in computer security?

- a) To create backup copies of your files b) To speed up your internet connection c) To act as a barrier blocking harmful internet traffic from your computer or network d) To encrypt your personal data

8. Which of the following is identified as a common type of social engineering attack?

- a) Installing software updates b) Creating a new folder c) Phishing and Shoulder Surfing d) Saving a document

9. What specific harmful substances are mentioned as being contained in old computers, contributing to the risks of E-waste?

- a) Oxygen and Nitrogen b) Water and Carbon Dioxide c) Harmful chemicals d) Precious metals like gold and silver

10. Besides negative impacts like E-waste and pollution from the technology lifecycle, how can technology positively benefit the environment?

- a) By increasing personal device usage b) By requiring more raw material extraction c) By enabling environmental monitoring with drones, efficient manufacturing with robots, developing electric cars, and creating alternative energy sources d) By making communication instantaneous

10 Test your understanding answers

1b, 2d, 3c, 4d, 5d, 6c, 7c, 8c, 9c, 10c