

Computers and Technology

August 2021

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Hardware

- Define and identify the basic components of a computer: CPU, hard drive, memory, RAM, GPU and graphics card.
- Describe each of the major components and explain its role in a computer system.
- Create a timeline of the history of computers, accessories and the Internet.
- Research and demonstrate proper cleaning of technology devices.
- Identify how proper care can support a higher quality and longer life span of your device(s).

Computer Graphics and Visualization

- Define computer graphics, visualization, dimension, pixel, vector and raster graphics.
- Identify different graphic file types and their uses.
- Explore and understand the differences between 1D, 2D, 3D and 4D.

Software

- Define software, application, mobile app and webapp.
- List at least 10 different types of software and their uses.
- Utilize multiple applications to create documents, spreadsheets and presentations.

Information Technology

- Define information technology.
- Describe three uses for information technology in your daily life.
- List secure and trustworthy search engines for your school projects.



Accessibility

- Define accessibility as it relates to computers and technology.
- Explain why accessibility is important for documents, websites and applications.
- Explore color contrasts and research tools to test color contrasts.
- Describe why headings are important in documents and web accessibility.
- Understand what alt text is and why it assists visitors who are visually impaired in “seeing” images in documents and webpages.
- Research adaptive tools used by people with disabilities to view documents, websites and applications.
- Create a document that is accessible.

Cybersecurity

- Define the following terms: cyberbullying, netiquette, virus protection, scam, scammers, hackers, phishing and cryptography.
- List appropriate online interactions. Review these with a trusted adult, parent or guardian.
- Create a key with examples of strong, weak and medium-strength passwords for others to use.
- Research the risks of having a weak password and benefits of having a strong password.
- Describe computer virus, malware and spyware. Give examples of each.
- Create a list of information that should never be given out online.
- Compare and contrast different computer virus protection software.
- Research the history of cryptography including Morse code, Navajo Code Talkers and Enigma Machine.
- Describe the difference between codes and ciphers.
- Explain the difference between encryption and enciphering.
- Create an educational display that explains what a programming language is and its role in computing and software development.



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