

Computers and Technology

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Information Technology

- Compare a laptop from different companies (Apple, Dell, Google) that would be appropriate for school use.
- Research warranties, support options and general life span during ownership for the laptop selected for school use.
- Create an educational guide on how to properly transport different electronic devices (computer, laptop, iPad, etc.).
- Define artificial intelligence (AI) and give examples of its use in modern computing.
- Define cloud computing and give examples of its use in modern computing.
- Research the pros and cons of different third-party cloud storage platforms.
- Compare third-party hosting platforms for websites and/or web applications.
- Create a list of past and current ways people saved their files onto another computer (removable disks, floppy disks, CD-ROMs, SD-Cards, flash drives, etc.).
- Explore computer graphics and visualization.
- Explain the concept of user analytics for website management.

Videography

- Define videography, 3D geometric content and geometric modeling.
- Identify the tools and processes that videographers utilize to create videos.
- Create a movie or short video clip using a movie editing tool.
- Compare and contrast different media streaming options.

3D Printing

- Identify the tools and software needed to create a 3D printed model.
- Create a list of local resources for creating 3D printed models.



2D Graphic Design

- Create an educational tool that explains the difference between JPEG, PNG and PDF file types and provides examples of when you would use each.
- Explain how DPI relates to quality printed materials, such as a poster or flyer.
- Explain why some images may not look sharp when printed because of pixel dimensions.

Software

- Explain the differences between system software, programming software, application software and embedded software.
- Demonstrate proficiency in Google and/or Microsoft software.
- Describe different kinds of software licensing.
- Compare and contrast two software applications that you use frequently. Evaluate their development, features, benefits and drawbacks.
- Research how to create an application or website.

Accessibility

- Research how Web Content Accessibility Guidelines (WCAG) are applied to web accessibility.
- Design a flyer for an individual who is colorblind or visually impaired using accessibility tools.
- Demonstrate how to make a document that is accessible for all.
- Research how accessibility checker tools like WAVE and SiteImprove work.
- Compare and contrast the accessibility of the websites of three different businesses or organizations using accessibility checker tools.

Cybersecurity

- Identify the consequences of sharing unkind or mean posts.
- Create a list of the basic steps to follow if one encounters cyberbullies or notices cyberbullying among friends.
- List examples of what could happen if cybersecurity is not taken seriously.
- Identify appropriate online interactions while using social media platforms and gaming online.
- Teach a younger 4-H member appropriate online interactions while using handheld technology devices.
- Explain the importance of password protecting devices.
- Explain how SSL (https) contributes to a website's security.
- Generate a list of free Wi-Fi locations and their network security to share in the community.
- Describe the security considerations to consider when connecting to a free Wi-Fi network.
- Define a virtual private network (VPN).

- Explain how two-factor authentication contributes to data security.
- Outline the steps to configure two-factor authentication for an online account.

Cryptography

- Define algorithm.
- Generate a message using Morse code, Navajo code or Enigma.
- List examples of how common programming languages are used.
- Explain how cryptography is utilized in everyday life (time stamping, electronic money, etc.).



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