Computers and Technology

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For more information, contact:
Jason Shoemaker, Extension Specialist, Computers and Technology
Brigitte Passman, Extension Agent I and County Director, Tipton County
Jennifer Richards, Curriculum Specialist, University of Tennessee Extension
Susan Craigo, Web Development Specialist, University of Tennessee Institute of Agriculture
Brad Greenfield, Web Application Developer, University of Tennessee Institute of Agriculture

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 utilize in everyday life (time stamping, electronic money, etc.).

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