

IT Fundamentals

Identify and describe the basic components of information technology. [CIS.HS.12.1](#)

- a** Identify and distinguish the differences between input and output devices. [CIS.HS.12.1A](#)

- b** Identify and explain how various components meet the needs of the user. [CIS.HS.12.1B](#)

- c** Identify and analyze emerging technologies. [CIS.HS.12.1C](#)

- d** Identify storage options. [CIS.HS.12.1D](#)

- e** Identify the process to configure permissions for files and folders. [CIS.HS.12.1E](#)

- f** Explain multiple methods of moving digital files. [CIS.HS.12.1F](#)

Identify and analyze hardware components. [CIS.HS.12.2](#)

- a** Identify the correct hardware to connect with external components. [CIS.HS.12.2A](#)

- b** Determine and evaluate recommended hardware devices to solve specific problems. [CIS.HS.12.2B](#)

- c** Troubleshoot basic computer hardware problems. [CIS.HS.12.2C](#)

- d** Find and analyze resources to answer basic troubleshooting questions. [CIS.HS.12.2D](#)

- e** Develop criteria for purchasing or upgrading computer system hardware. [CIS.HS.12.2E](#)

- f** Identify and analyze proper input technologies for various tasks. [CIS.HS.12.2F](#)

Identify and analyze software components. [CIS.HS.12.3](#)

- a** Identify and analyze software appropriate for specific tasks. [12.3A](#)

- b** Research and analyze software installation and upgrade options [CIS.HS.12.3B](#)

- c** Troubleshoot potential problems with software installation (i.e. bloatware). [CIS.HS.12.3C](#)

- d** Compare and contrast the functions, features, and limitations of different operating systems and utilities (i.e., open source and mobile proprietary operating systems). [CIS.HS.12.3D](#)

Explain web technologies. CIS.HS.12.4

- a Identify the components (e.g., wires, cables, routers, etc.) that make up the Internet.** CIS.HS.12.4A

- b Describe the types of Internet connections.** CIS.HS.12.4B

- c Explain Transmission Control Protocol/Internet Protocol (TCP/IP).** CIS.HS.12.4C

- d Identify and compare different types of web technologies: blogs, wikis, podcasts, RSS feeds, etc.** CIS.HS.12.4D

- e Explain browser cache and the process of clearing it.** CIS.HS.12.4E

Design, administer, and deploy networks. CIS.HS.12.5

- a Define basic networking terminology.** CIS.HS.12.5A

- b Describe the characteristics and uses of networks, network devices, and components.** CIS.HS.12.5B

- c Identify the purpose of networks and their functionality.** CIS.HS.12.5C

- d Identify tools, diagnostic procedures, and troubleshooting techniques for networks.** CIS.HS.12.5D

- e Describe the process of configuring, optimizing, and upgrading of networks.** CIS.HS.12.5E

- f Explore and use cloud computing.** CIS.HS.12.5F

- g Research and analyze basic network security solutions.** CIS.HS.12.5G

- h Design a theoretical network environment and create protocols on deploying and maintaining the network.** CIS.HS.12.5H

Apply database management strategies. CIS.HS.12.6

- a Design and create database tables and relationships.** CIS.HS.12.6A

- b Create database columns and specify properties.** CIS.HS.12.6B

- c Name tables and fields in conformance with naming conventions.** CIS.HS.12.6C

- d Insert, update, and delete records in a database.** CIS.HS.12.6D

- e Import data into databases and transfer data between databases.** CIS.HS.12.6E

- f Organize and store database files in a structured environment for users.** CIS.HS.12.6F

- g Control user access to data and log access to the database by user and type of transaction.** CIS.HS.12.6G

- h Backup, verify, and recover data in a database.** CIS.HS.12.6H

i Generate and print forms, reports, and results of queries (i.e., calculated fields, functions). [CIS.HS.12.6I](#)

Design, develop, test, and implement programs. [CIS.HS.12.7](#)

a Identify and define programming terminology. [CIS.HS.12.7A](#)

b Explain the importance of life-long learning as a programmer. [CIS.HS.12.7B](#)

c Analyze the strengths and weaknesses of different languages for solving a specific problem. [CIS.HS.12.7C](#)

d Write code that uses logical operators (e.g., and, or, not, loops). [CIS.HS.12.7D](#)

e Write code that uses conditional control structures (e.g., if, if-then-else). [CIS.HS.12.7E](#)

f Test and debug code. [CIS.HS.12.7F](#)

g Identify and analyze protocols to maintain the integrity of programs. [CIS.HS.12.7G](#)

Assess protocols for security and risk management. [CIS.HS.12.8](#)

a Identify the goals, objectives, and purposes of cybersecurity first principles [CIS.HS.12.8A](#)

b Identify different types of security threats and vulnerabilities. [CIS.HS.12.8B](#)

c Identify and analyze policies procedures for security, privacy, and risk management. [CIS.HS.12.8C](#)

d Explain intellectual property laws (e.g., copyright, trademark). [CIS.HS.12.8D](#)

e Identify and analyze confidentiality concerns. [CIS.HS.12.8E](#)

f Discuss risk loss and prevention methods. [CIS.HS.12.8F](#)

g Analyze and evaluate passwords. [CIS.HS.12.8G](#)

h Identify personal risks and create personal protocols to differentiate between home and work. [CIS.HS.12.8H](#)

Identify opportunities in an information technology career field. [CIS.HS.12.9](#)

a Identify information technologies used in various industries. [CIS.HS.12.9A](#)

b Discuss the impact of technology on all career fields. [CIS.HS.12.9B](#)

c Identify common tasks within the information technology career fields in occupations. [CIS.HS.12.9C](#)

d Discuss career opportunities in information technology career fields. [CIS.HS.12.9D](#)

e Describe the impact of technological change and the importance of lifelong learning in this career field. CIS.HS.12.9E