Nebraska CTE

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 ystems). CIS.HS.12.3D

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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

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	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

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