Nebraska CTE

Computer Science and Technology (2024)

Demonstrate and describe best practices of computer literacy. CS.HS.1	**a** Interpret potential beneficial and harmful effects of computing innovations and emerging technologies, including artificial intelligence. CS.HS.1.A
	b Identify and explain how hardware components and software applications meet the needs of the end user. CS.HS.1.B
	c Demonstrate effective and efficient searches. CS.HS.1.C
	d Select and use appropriate software to complete tasks in a variety of educational and professional settings. CS.HS.1.D
	e Identify information technologies used in various industries and potential careers in those industries. CS.HS.1.E
Analyze ethical practices and behaviors of digital citizenship. CS.HS.2	**a** Examine and evaluate cultural, social, and ethical issues associated with information technology. CS.HS.2.A
	b Apply digital literacy by assessing the validity, accuracy, and appropriateness of information. CS.HS.2.B
	c Describe how algorithms may result in both intentional and unintentional bias. CS.HS.2.C
	d Investigate how applications of computing can have legal implications. CS.HS.2.D
	e Evaluate safety and security measures for protecting information and managing digital footprints. CS.HS.2.E
Apply concepts of information technology. CS.HS.3	**a** Identify and describe computing hardware components. CS.HS.3.A
	b Perform operations on digital files stored on local devices and remote/cloud storage. CS.HS.3.B
	c Compare and contrast the functions, features, and limitations of different operating systems and utilities. CS.HS.3.C
	d Troubleshoot computer hardware and software. CS.HS.3.D

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	e Define components of computer networks. CS.HS.3.E
	f Explain how data is sent through the Internet. CS.HS.3.F
	g Interpret and draw conclusions based on a data set. CS.HS.3.G
Analyze the fundamentals of cybersecurity. CS.HS.4	**a** Describe cryptography, encryption, and ciphers. CS.HS.4.A
	b Identify methods to protect personal devices, information, and systems. CS.HS.4.B
	c Compare and contrast federal, state, local, and international cybersecurity policies. CS.HS.4.C
Apply concepts of computational thinking. CS.HS.5	**a** Define the term algorithm and explain its relationship to computational solutions. CS.HS.5.A
	b Decompose a complex problem into distinct parts. CS.HS.5.B
	c Identify and develop computational solutions to problems. CS.HS.5.C
	d Define abstraction in terms of computer science and explain how it is used to manage complexity. CS.HS.5.D
	e Represent equivalent data using different encoding schemes. CS.HS.5.E
Implement programming literacy practices to create computational artifacts. CS.HS.6	**a** Predict the result or output of code execution. CS.HS.6.A
	b Develop programs that use sequences of statements, variables, loops, and conditionals. CS.HS.6.B
	c Design and develop computational artifacts that address personally- or socially relevant concerns. CS.HS.6.C
	d Use abstraction to manage complexity or avoid duplication of effort. CS.HS.6.D
	e Use existing procedures within a program or language based on documentation. CS.HS.6.E
	f Write documentation describing the function of computational artifacts. CS.HS.6.F