

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

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
