

# 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](#)

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- b** Identify and explain how hardware components and software applications meet the needs of the end user. [CS.HS.1.B](#)

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- c** Demonstrate effective and efficient searches. [CS.HS.1.C](#)

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- d** Select and use appropriate software to complete tasks in a variety of educational and professional settings. [CS.HS.1.D](#)

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- 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](#)

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- b** Apply digital literacy by assessing the validity, accuracy, and appropriateness of information. [CS.HS.2.B](#)

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- c** Describe how algorithms may result in both intentional and unintentional bias. [CS.HS.2.C](#)

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- d** Investigate how applications of computing can have legal implications. [CS.HS.2.D](#)

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- 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](#)

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- b** Perform operations on digital files stored on local devices and remote/cloud storage. [CS.HS.3.B](#)

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- c** Compare and contrast the functions, features, and limitations of different operating systems and utilities. [CS.HS.3.C](#)

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- d** Troubleshoot computer hardware and software. [CS.HS.3.D](#)

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**e Define components of computer networks.** CS.HS.3.E

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**f Explain how data is sent through the Internet.** CS.HS.3.F

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**g Interpret and draw conclusions based on a data set.** CS.HS.3.G

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**Analyze the fundamentals of cybersecurity.** CS.HS.4

**a Describe cryptography, encryption, and ciphers.** CS.HS.4.A

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**b Identify methods to protect personal devices, information, and systems.** CS.HS.4.B

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**c Compare and contrast federal, state, local, and international cybersecurity policies.** CS.HS.4.C

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**Apply concepts of computational thinking.** CS.HS.5

**a Define the term algorithm and explain its relationship to computational solutions.** CS.HS.5.A

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**b Decompose a complex problem into distinct parts.** CS.HS.5.B

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**c Identify and develop computational solutions to problems.** CS.HS.5.C

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**d Define abstraction in terms of computer science and explain how it is used to manage complexity.** CS.HS.5.D

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**e Represent equivalent data using different encoding schemes.** CS.HS.5.E

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**Implement programming literacy practices to create computational artifacts.** CS.HS.6

**a Predict the result or output of code execution.** CS.HS.6.A

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**b Develop programs that use sequences of statements, variables, loops, and conditionals.** CS.HS.6.B

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**c Design and develop computational artifacts that address personally- or socially relevant concerns.** CS.HS.6.C

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**d Use abstraction to manage complexity or avoid duplication of effort.** CS.HS.6.D

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**e Use existing procedures within a program or language based on documentation.** CS.HS.6.E

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**f Write documentation describing the function of computational artifacts.** CS.HS.6.F