

High School – CS Level 1

Computing Systems

Devices

- 1 Describe the use of artificial intelligence within computing systems. [HS-CS-01](#)
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Hardware & Software

- 2 Explain how computing devices manage and allocate shared resources. [HS-CS-02](#)
 - 3 Illustrate the ways computing systems implement logic, input, and output through hardware components. [HS-CS-03](#)
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Troubleshooting

- 4 Utilize guidelines that convey systematic troubleshooting strategies that debug computer systems. [HS-CS-04](#)
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Networks & The Internet

Network Communication & Organization

- 1 Identify issues of network functionality in computational artifact design. [HS-NI-01](#)
 - 2 Analyze issues of network functionality in computational artifact design. [HS-NI-02](#)
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Cybersecurity

- 3 Identify issues of unauthorized access and cybersecurity in computational artifact design. [HS-NI-03](#)
 - 4 Analyze issues of unauthorized access and cybersecurity in computational artifact design. [HS-NI-04](#)
 - 5 Explain tradeoffs when selecting and implementing cybersecurity recommendations for various scenarios based on factors such as efficiency, feasibility, and ethical impacts. [HS-NI-05](#)
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Data & Analysis

Storage

Collection, Visualization, & Transformation

- 1 Identify patterns in data representing complex systems with select data analysis tools and techniques. [HS-DA-01](#)
- 2 Select appropriate data collection tools and techniques. [HS-DA-02](#)
- 3 Compile data sets that support a claim or communicate information. [HS-DA-03](#)

Inference & Models

- 4 Identify the ability of models and simulations to test hypotheses. [HS-DA-04](#)
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Algorithms & Programming

Algorithms

- 1 Identify artificial intelligence algorithms. [HS-AP-01](#)
 - 2 Solve computational problems with classic algorithms. [HS-AP-02](#)
 - 3 Evaluate algorithms in terms of their efficiency, correctness, and clarity. [HS-AP-03](#)
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Variables

- 4 Select an appropriate data structure for information of a given problem. [HS-AP-04](#)
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Control

- 5 Illustrate the flow of execution of a recursive algorithm. [HS-AP-05](#)
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Modularity

- 6 Identify a large-scale computational problem. [HS-AP-06](#)
 - 7 Analyze general patterns applicable to a solution. [HS-AP-07](#)
 - 8 Create computational artifacts with pre-existing procedures, external components, libraries and APIs. [HS-AP-08](#)
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Program Development

- 9 Create a computational artifact through an industry-standard process. [HS-AP-09](#)
 - 10 Justify that a computational artifact meets design specifications with systematic testing and debugging methods. [HS-AP-10](#)
 - 11 Construct a computational artifact as a team through industry appropriate collaborative tools and processes. [HS-AP-11](#)
 - 12 Compose standard documentation for computational artifacts to make it easier to follow, test, and debug. [HS-AP-12](#)
 - 13 Modify an existing computational artifact for additional functionality. [HS-AP-13](#)
 - 14 Discuss intended and unintended implications of a modified computational artifact. [HS-AP-14](#)
 - 15 Develop computational artifacts for multiple platforms. [HS-AP-15](#)
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Impacts of Computing

Culture

- 1 Evaluate computational artifacts for their effects on society. [HS-IC-01](#)
 - 2 Make computational artifact recommendations for maximized beneficial and minimal harmful effects on society. [HS-IC-02](#)
 - 3 Predict how computational innovations that revolutionized aspects of our culture might evolve. [HS-IC-03](#)
 - 4 Evaluate how equity, access, and influence impact distribution of computing resources in a global society. [HS-IC-04](#)
 - 5 Create computational artifacts to ensure accessibility and reduce computational bias. [HS-IC-05](#)
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Social Interactions

- 6 Utilize tools and methods for collaboration on a project to increase connectivity of people in different cultures and career fields. [HS-IC-06](#)
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Safety, Law, & Ethics