

Computer Science: Grades 6-8

Data & Information

- 1 Decompose a problem into steps to test possible solutions. (E)** 6-8.DI.1A
- 2 Analyze collected data and identify a way to make it more useful (e.g., after listening to responses recorded by a microphone, or reading the closed captioning, decide if the responses should be re-recorded to make them clearer).** 6-8.DI.2A
- 3 Describe that data can be represented in different ways (binary, RGB values [e.g., red, green, and blue intensity], and hexadecimal codes) for the computer to process the information.** 6-8.DI.3A
- 4 Use visuals (e.g., flowcharts, diagrams, charts) to plan, interpret, break down, or solve a problem. (E)** 6-8.DI.4A

Computing Devices & Systems

- 1 Identify and use the hardware and software components of a system to complete a task. (E)** 6-8.CD.1A
- 2 Use provided strategies (e.g., checklist, decision tree, flowchart) to identify or fix problems with provided technology.** 6-8.CD.2A
- 3 Recommend one improvement to the design or functionality of hardware or software based on personal experience.** 6-8.CD.3A
- 4 Identify what distinguishes human communication from machine communication.** 6-8.CD.4A

Programs & Algorithms

- 1 Iteratively design a simple sequence to complete a process or address a problem.** 6-8.PA.1A
- 2 Use a provided systematic approach to test and refine a program. (E)** 6-8.PA.2A
- 3 Add information (e.g., code, media, and libraries) to an original program to produce a desired outcome and give credit to the source.** 6-8.PA.3A
- 4 Describe what a line of code does in a simple familiar program.** 6-8.PA.4A

Networking & the Internet

- 1 Identify one or more ways to protect electronic information. (E)** 6-8.NI.1A
- 2 Model how data is transmitted (protocols) across networks and the internet.** 6-8.NI.2A

3 List ways to protect information transmitted across networks and the internet. 6-8.NI.3A

Impact & Culture

1 Demonstrate responsible behavior when using hardware and software and discuss the consequences of misuse. (E) 6-8.IC.1A

2 Make observations regarding, or identify issues of, bias and accessibility with hardware and software/technology. 6-8.IC.2A

3 Create an artifact with a partner or small group using provided criteria, constraints, or design preferences from stakeholders. 6-8.IC.3A

4 Compare tradeoffs between allowing information to be public and keeping information private and secure. 6-8.IC.4A

5 Examine how unequal availability of technology has disadvantaged people who are in marginalized populations. 6-8.IC.5A