

Computer Science  
K-12 Standards  
Data and Analysis



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## Attribution



The CSTA K–12 Computer Science Standards are created and maintained by members of the Computer Science Teachers Association (CSTA).



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The [K–12 Computer Science Framework](#), led by the [Association for Computing Machinery](#), [Code.org](#), [Computer Science Teachers Association](#), [Cyber Innovation Center](#), and [National Math and Science Initiative](#) in partnership with states and districts, informed the development of this work.

The CSTA Standards Revision Task Force crafted standards by combining concept statements and practices from the Framework. The Task Force also used descriptive material from the Framework when writing examples and clarifying statements to accompany the standards. The glossary referenced in the navigation header links directly to the Framework's glossary.

For more information about the Framework, please visit [k12cs.org](http://k12cs.org).

## Legend for Identifiers

### Unique Numbering System for the Washington Computer Science K–12 Learning Standards

To help organize and track each individual standard, a unique identifier was developed. An example appears below:

Level	Framework Concept	Number	Computer Science K–12 Learning Standard
Grades 6–8	Algorithms and Programming	17	Systematically test and refine programs using a range of test cases.
<b>2</b>	<b>AP</b>	<b>17</b>	<b>Identifier: 2-AP-17</b>

Use the following legend to interpret the unique identifier for each Computer Science K–12 Learning Standard:

The identifier code corresponds to: Level – Concept – Number		
Identifier Code		Key
<b>Levels</b>	1A	Grades K–2
	1B	Grades 3–5
	2	Grades 6–8
	3A	Grades 9–10
	3B	Grades 11–12
<b>Concepts</b>	CS	Computing Systems
	NI	Networks and the Internet
	DA	Data and Analysis
	AP	Algorithms and Programming
	IC	Impacts of Computing

Integrated into classroom activities through practices:

<b>Practices</b>	1	Fostering an Inclusive Computing Culture
	2	Collaborating
	3	Recognizing and Defining Computational Problems
	4	Developing and Using Abstractions
	5	Creating Computational Artifacts
	6	Testing and Refining
	7	Communicating about Computing

Figure 1: Standards Identifier Code –  
Computer Science Teachers Association K–12 Computer Science Standards (2017)  
Retrieved from <http://www.csteachers.org>



## K-12 Data and Analysis Standards

<b>Identifier</b>	<b>Level 1A: K–2</b>
1A-DA-05	Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.
1A-DA-06	Collect and present the same data in various visual formats.
1A-DA-07	Identify and describe patterns in data visualizations, such as charts or graphs, to make predictions.
<b>Identifier</b>	<b>Level 1B: 3–5</b>
1B-DA-06	Organize and present collected data visually to highlight relationships and support a claim.
1B-DA-07	Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.
<b>Identifier</b>	<b>Level 2: 6–8</b>
2-DA-07	Represent data using multiple encoding schemes.
2-DA-08	Collect data using computational tools and transform the data to make it more useful and reliable.
2-DA-09	Refine computational models based on the data they have generated.
<b>Identifier</b>	<b>Level 3A: 9–10</b>
3A-DA-09	Translate between different bit representations of real-world phenomena, such as characters, numbers, and images.
3A-DA-10	Evaluate the tradeoffs in how data elements are organized and where data is stored.
3A-DA-11	Create interactive data visualizations using software tools to help others better understand real-world phenomena.
3A-DA-12	Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
<b>Identifier</b>	<b>Level 3B: 11–12</b>
3B-DA-05	Use data analysis tools and techniques to identify patterns in data representing complex systems.
3B-DA-06	Select data collection tools and techniques to generate data sets that support a claim or communicate information.
3B-DA-07	Evaluate the ability of models and simulations to test and support the refinement of hypotheses.

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Download this material in PDF at <http://www.k12.wa.us/CurriculumInstruct/learningstandards.aspx>.

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