

# Computer Science Standards

Computing Systems (CS 1-3)

Networks and the Internet (NI 4-5)

Data and Analysis (DA 5-7)

Algorithms and Programming (AP 8-17)

Impacts of Computing (IC 16-21)

Kindergarten			
Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems (CS 1-3)	1A-CS-01 Select and operate appropriate software to perform a variety of tasks and recognize that users have different needs and preferences for the technology they use.	1A-CS-02 Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).	
Networks and the Internet (NI 4-5)	1A-NI-04 Explain what passwords are and why we use them and use strong passwords to protect devices and information from unauthorized access.		
Data and Analysis (DA 5-7)	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.		
Algorithms and Programming (AP 8-17)	1A-AP-10 Develop programs with sequences and simple loops, to express ideas or address a problem.		

Impacts of Computing (IC 16-21)	1A-IC-18 Keep login information private and log off of devices appropriately.	1A-IC-17 Work respectfully and responsibly with others online.	
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## First Grade

Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems	1A-CS-01 Select and operate appropriate software to perform a variety of tasks and recognize that users have different needs and preferences for the technology they use.	1A-CS-02 Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware). 1A-CS-03 Describe basic hardware and software problems using accurate terminology.	
Networks and the Internet	1A-NI-04 Explain what passwords are and why we use them and use strong passwords to protect devices and information from unauthorized access.		
Data and Analysis	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.	1A-DA-05 Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.	
Algorithms and Programming	1A-AP-08 Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-11 Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.	1A-AP-10 Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-13 Give attribution when using the ideas and creations of others while developing programs.	
Impacts of Computing	1A-IC-18 Keep login information private and log off of devices appropriately.	1A-IC-17 Work respectfully and responsibly with others online.	

## Second Grade

Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems	1A-CS-01 Select and operate appropriate software to perform a variety of tasks and recognize that users have different needs and preferences for the technology they use.	1A-CS-02 Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware). 1A-CS-03 Describe basic hardware and software problems using accurate terminology.	
Networks and the Internet	1A-NI-04 Explain what passwords are and why we use them and use strong passwords to protect devices and information from unauthorized access.		
Data and Analysis	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.	1A-DA-05 Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.	
Algorithms and Programming	1A-AP-12 Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14 Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15 Using correct terminology, describe steps taken and choices made during the iterative process of program development.	1A-AP-09 Model the way programs store and manipulate data by using numbers or other symbols to represent information.  1A-AP-10 Develop programs with sequences and simple loops, to express ideas or address a problem.	
Impacts of Computing	1A-IC-16 Compare how people live and work before and after the implementation or adoption of new computing technology.	1A-IC-17 Work respectfully and responsibly with others online. 1A-IC-18 Keep login information private and log off of devices appropriately.	

## Third Grade

Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems	1B-CS-01 Describe how internal and external parts of computing devices function to form a system.		

<p><b>Networks and the Internet</b></p>	<p>1B-NI-04 Model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination.</p>		
<p><b>Data and Analysis</b></p>	<p>1B-DA-06 Organize and present collected data visually to highlight relationships and support a claim.</p>		
<p><b>Algorithms and Programming</b></p>	<p>1B-AP-08 Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 1B-AP-11 Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process.</p>	<p>1B-AP-09 Create programs that use variables to store and modify data. Variables are used to store and modify data. 1B-AP-13 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.</p>	
<p><b>Impacts of Computing</b></p>	<p>1B-IC-19 Brainstorm ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.</p>	<p>1B-IC-18 Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.</p>	

## Fourth Grade

Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems	1B-CS-02 Model how computer hardware and software work together as a system to accomplish tasks.		
Networks and the Internet	1B-NI-04 Model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination.		
Data and Analysis	1B-DA-06 Organize and present collected data visually to highlight relationships and support a claim.		
Algorithms and Programming	1B-AP-10 Create programs that include sequences, events, loops, and conditionals. 1B-AP-11 Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-14 Observe intellectual property rights and give appropriate attribution when creating or remixing programs. 1B-AP-15 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	1B-AP-09 Create programs that use variables to store and modify data. Variables are used to store and modify data. 1B-AP-13 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-16 Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development.	
Impacts of Computing	1B-IC-20 Seek diverse perspectives for the purpose of improving computational artifacts.	1B-IC-18 Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	

## Fifth Grade

Measurement Topic	Anchor Standard	Substandard	Activity
Computing Systems	1B-CS-03 Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies.		

<b>Networks and the Internet</b>	1B-NI-04 Model how information is broken down into smaller pieces, transmitted as packets through multiple devices over networks and the Internet, and reassembled at the destination.	1B-NI-05 Discuss real-world cybersecurity problems and how personal information can be protected.	
<b>Data and Analysis</b>	1B-DA-07 Use data to highlight or propose cause-and-effect relationships, predict outcomes, or communicate an idea.		
<b>Algorithms and Programming</b>	1B-AP-10 Create programs that include sequences, events, loops, and conditionals. 1B-AP-12 Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-14 Observe intellectual property rights and give appropriate attribution when creating or remixing programs. 1B-AP-15 Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.	1B-AP-09 Create programs that use variables to store and modify data. Variables are used to store and modify data. 1B-AP-13 Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-16 Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development.	
<b>Impacts of Computing</b>	1B-IC-21 Use public domain or creative commons media, and refrain from copying or using material created by others without permission.	1B-IC-18 Discuss computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	

