

Essential Skills for Grade 1

Concept	Sub-concept	Standard	Essential Skills
Computing Systems	Devices	1. CS.D.01 Select and operate the appropriate application/software to perform a variety of tasks or obtain a desired outcome.	Choose an appropriate computer application to perform a given task. Complete a task using the computer application chosen.
Computing Systems	Hardware & Software	1. CS.HS.01 Identify and describe functions of common computing devices and external hardware (e.g., mobile devices, desktop computer, laptop computer, mouse, keyboard, printer, wearables).	Describe the function of external hardware components. Describe the function of common computing devices.
Computing Systems	Troubleshooting	1. CS.T.01 Identify and communicate basic hardware and software problems that may occur during use (e.g., application/program not working correctly, no sound coming from device, caps lock turned on), using appropriate technical terminology.	Contrast the way a computing device or program is expected to work with how it does not work properly.
Networks and the Internet	Network Communication & Organization	1. NI.NCO.01 Recognize that computing devices can be connected through physical or wireless pathways.	Describe or show how computing components , such as monitors and keyboards are connected via physical or wireless pathways,
Networks and the Internet	Cybersecurity	1. NI.C.01 Recognize what passwords are, why they are used, and why they are not shared.	Explain the purpose of passwords Demonstrate good practices for keeping passwords private.
Networks and the Internet	Cybersecurity	Not addressed at this level.	
Data Analysis	Storage	1. DA.S.01 Identify, access, modify, and save an existing file with a computing device.	Use and store files on a computing device. Find information in a file on a computing device (may be an image, text, etc.)
Data Analysis	Collection, Visualization & Transformation	1. DA.CVT.01 With guidance, collect and organize data. Present data effectively in two different ways	Collect and organize data from a survey or from observations. Display data in two or more ways.

Data Analysis	Inference & Models	1.DA.IM.01 With guidance, identify, interpret, and analyze data from a chart or graphical display (visualization) in order to make a prediction, with or without a computing device	Identify what kind of data is contained in a data display. Make a prediction, a comparison or draw a conclusion from a data display
Algorithms and Programming	Algorithms	1. AP.A.01 Model daily processes and follow basic algorithms (step-by-step lists of instructions) to complete tasks verbally, kinesthetically, via a programming language, or using a device.	Complete an unfamiliar task as detailed by an algorithm
Algorithms and Programming	Variables	1.AP.V.01 With guidance, model the way programs store and manipulate grade-level data by using numbers or other symbols to represent information (e.g., encode or decode words using numbers, pictographs or symbols to letters, words, or direction)	Identify and interpret symbols that are used to represent information such as mathematical operators, pictographs, Create and use symbols to represent information such as comparative quantities, repeating patterns, a series of actions, or directions.
Algorithms and Programming	Control	1. AP.C.01 With guidance, create programs by using creative expression or problem solving, to accomplish tasks that include sequencing and repetition. Programming languages, robot devices, or unplugged activity can serve as the means	Determine what changes will occur if there is a change in the sequence of instructions or occurrences. Identify patterns and repetition within sequences.
Algorithms and Programming	Modularity	Not addressed at this level	
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Algorithms and Programming	Program Development	1. AP.PD.01 Create a grade-level appropriate document to illustrate thoughts, ideas, or stories in a sequential manner (e.g., storyboard, story map, sequential graphic organizer).	Present ordered steps to describe a process, to tell a story, etc. in a document.
Algorithms and Programming	Program Development	1. AP.PD.02 Give attribution to ideas, solutions, and creations of others, verbally, or written, while writing or developing algorithms and programs.	Give credit to an author, artist, etc. when using resources or artifacts they created to develop algorithms or computer programs

Algorithms and Programming	Program Development	1. AP.PD.03 Identify and correct errors (debug) in programs which include sequencing and repetition to accomplish a task, through a variety of techniques and strategies that could include an unplugged activity (e.g., changing order or sequence, following steps, trial and error).	Analyze a simple algorithm to find bugs . Suggest solutions to the bugs in the algorithm using a variety of strategies.
Algorithms and Programming	Program Development	1. AP.PD.04 Use correct terminology (e.g., beginning, middle, end, etc.) and explain choices made during the development of an algorithm and/or program to solve a simple problem.	Justify the steps chosen when creating an algorithm
Impacts of Computing	Culture and Diversity	1. IC.C.01 Use grade-level appropriate language to identify and describe how people use a variety of technologies and applications in their daily work and personal lives.	Explain how certain tasks are made easier because of computing devices.
Impacts of Computing	Culture and Diversity	Not addressed at this level	
Impacts of Computing	Social Interactions	1. IC.SI.01 Identify and describe appropriate and inappropriate behaviors when participating online.	Recognize inappropriate online behavior. Describe appropriate and inappropriate online behaviors, identifying them as one or the other.
Impacts of Computing	Social Interactions	Not addressed at this level	
Impacts of Computing	Safety, Law & Ethics	1. IC.SLE.01 Keep login information private and log off devices appropriately.	Recognize login information as private information that should not be shared. Identify trusted adults with whom it is safe to share login information.

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These annotations are a collaboration between [Maryland Center for Computing Education](#) and the [Maryland State Department of Education](#).