PLTW Launch Standards Guide

Utah K-5 Computer Science Standards (2019)

PLTW Launch (PreK-5) is designed to support your science learning needs. The modules are developed to ensure an unmatched experience, combining three-dimensional learning; unique, problem-based instructional approach; real-world applied learning; as well as Spanish language options – all in one program.

This Standards Guide shows how each PLTW Launch module supports the Utah K-5 Computer Science Standards (2019). Because schools need the flexibility to implement the curriculum in the way that best meets their students' needs, PLTW Launch is designed to support a wide range of implementations. Whether the modules are offered in all classrooms, as a specials rotation, as grade level rotations, as an after-school program, or even as a summer learning implementation, PLTW Launch offers the flexibility to meet your needs.

Modules idnentified with an asterik can be used to support the Utah K-5 Computer Science Standards (2019) at a school's discretion but are not identifeid by PLTW as computer science modules.

Use this Standards Guide in combination with the Module Descriptions PDF as planning tools to explore how you can implement PLTW Launch as your elementary learning solution.

PLTW LAUNCH

Grade	Strand	Standard	PLTW Launch Modules
Kindergarten	Computing Systems	K.CS.1 – Select computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.	Animals and Algorithms (K)
	Network and the Internet	K.NI.1 - Model and describe how people connect to other people and information through a network.	This standard is currently not supported.
		K.NI.2 - Create patterns to communicate a message.	Spatial Sense and Coding (PreK)
	Data and Analysis	K.DA.1 - Identify and describe patterns in data visualizations, such as charts or graphs, to make predictions.	Sunlight and Weather (K)*
	Algorithms and Programming	K.AP.1 - Model processes by creating and following algorithms to complete tasks.	Animals and Algorithms (K)
	Computational Thinking	K.CT.1 - Decompose problems into smaller manageable parts to better understand them.	Animals and Algorithms (K)
First	Computing Systems	1.CS.1 - Operate a variety of computing devices that perform tasks accurately and quickly based on user needs and preferences.	Animated Storytelling (1)
		1.CS.2 - Explore the functions of common hardware and software components of computing systems.	Animated Storytelling (1)
	Data and Analysis	1.DA.1 - Collect and present data in various visual formats.	Animated Storytelling (1)
		1.DA.2 - Identify and describe patterns in data visualizations (unplugged or digital), such as charts or graphs, to make predictions.	Animated Storytelling (1)
	Algorithms and Programming	1.AP.1 - Demonstrate understanding of the way programs store and manipulate data as variables, such as numbers, words, colors, and images.	Animated Storytelling (1)
		1.AP.2 - Break down (deconstruct) algorithms and list the steps needed to solve a problem into a sequence of tasks and sub-tasks.	Animated Storytelling (1)
		1.AP.3 - Create programs with sequences (steps) of commands and simple loops (repeated patterns), to express ideas or address a problem.	Animated Storytelling (1)
	Impacts of Computing	1.IC.1 - Develop the ability to work respectfully and responsibly with others whether communicating face to face or electronically.	Animated Storytelling (1)
	Computational Thinking	1.CT.1 - Determine the steps needed to solve a problem and develop a sequence of instructions.	Animated Storytelling (1)
		1.CT.2 - Recognize similarities between new problems and problems they have solved in the past.	Animated Storytelling (1)

Grade	Strand	Standard	PLTW Launch Modules
Second	Computing Systems	2.CS.1 - Describe and solve basic hardware and software problems.	Grids and Games (2)
	Network and the Internet	2.N1.1 - Explain what a password is, why it is used, and be able to create a secure password.	Grids and Games (2)
	Data and Analysis	2.DA.1 - Demonstrate how to store, copy, search, retrieve, modify and delete information using a computing device, and define the information stored as data.	Grids and Games (2)
		2.DA.2 - Collect and present data in various visual formats.	Grids and Games (2)
		2.DA.3 - Identify and describe patterns in data visualizations (i.e. charts or graphs) to make predictions.	Animated Storytelling (1)
	Algorithms and Programming	2.AP.1 - Deconstruct the steps needed to solve a task into a sequence of instructions.	Grids and Games (2)
		2.AP.2 - Collaboratively develop plans that describe a program's sequence of events, goals, and expected outcomes.	Grids and Games (2)
		2.AP.3 - Properly credit others when using their ideas and creations while developing programs.	Animated Storytelling (1)
		2.AP.4 - Debug and solve simple problems within an algorithm or program that includes sequences and simple loops.	Grids and Games (2)
		2.AP.5 - Summarize the steps taken and choices made during the iterative process of program development.	Grids and Games (2)
	Impacts of Computing	2.IC.1 - Describe how technology has impacted society over time.	Animated Storytelling (1)

Grade	Strand	Standard	PLTW Launch Modules
Third	Computing Systems	3.CS.1 - Describe and model how computing devices connect to other components to extend their capabilities and form a system.	Input/Output: Computer Systems (4)
	Network and the Internet	3.NI.1 - Describe physical and digital security measures for protecting personal information.	Programming Patterns (3)
		3.NI.2 - Develop personal patterns of behavior to protect information from unauthorized access.	Programming Patterns (3)
	Data and Analysis	3.DA.1 - Organize and present collected data visually to highlight relationships and support a claim.	Stability and Motion: Science of Flight (3)* Variation of Traits (3)* Weather: Factors and Hazards (3)*
		3.DA.2 - Use data to communicate ideas, highlight relationships and predict outcomes.	Stability and Motion: Science of Flight (3)* Stability and Motion: Forces and Interactions (3)* Variation of Traits (3)* Weather: Factors and Hazards (3)* Life Cycles and Changes (3)* Environmental Changes (3)*
	Algorithms and Programming	3.AP.1 - Create programs that include events, sequences, loops, and simple conditionals to express ideas or address a problem.	Programming Patterns (3)
		3.AP.2 - Create programs that use variables to store and modify data.	Programming Patterns (3)
		3.AP.3 - Test and debug a program or algorithm to ensure it accomplishes the intended task.	Programming Patterns (3)
		3.AP.4 - Perform different roles when collaborating with peers during the design, implementation, and review stages of program development.	Programming Patterns (3)
		3.AP.5 - Use an iterative design process to plan and develop a program by considering the perspectives and preferences of others.	Programming Patterns (3)
		3.AP.6 - Create programs by incorporating smaller portions of existing programs to develop something new or add more advanced features.	Programming Patterns (3)
	Impacts of Computing	3.IC.1 - Evaluate how computing technologies have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	Grids and Games (2)
		3.IC.2 - Describe reasons creators might limit the use of their work.	This standard is currently not supported.
	Computational Thinking	3.CT.1 - Decompose problems into smaller manageable tasks which may themselves be decomposed	Programming Patterns (3)
		3.CT.2 - Recognize common patterns between problems and recurring patterns within problems.	Programming Patterns (3)

Grade	Strand	Standard	PLTW Launch Modules
Fourth	Computing Systems	4.CS.1 - Demonstrate how computer hardware and software work together as a system to accomplish tasks.	Input/Output: Computer Systems (4)
	Network and the Internet	4.NI.1 - Model how information is broken down into smaller pieces called packets and transmitted through multiple devices over physical or wireless paths and reassembled at the destination.	Input/Output: Computer Systems (4)
	Data and Analysis	4.DA.1 - Select, organize, and categorize data and represent that data visually to provide clarity or support a claim.	Input/Output: Computer Systems (4)
		4.DA.2 - Use data to highlight and propose relationships, predict outcomes, or communicate ideas.	Input/Output: Computer Systems (4)
	Algorithms and Programming	4.AP.1 - Compare and refine multiple algorithms for the same task, using computer and non-computer languages, and determine which is the most appropriate.	Input/Output: Computer Systems (4)
		4.AP.2 - Create programs that include events, loops, and conditionals.	Input/Output: Computer Systems (4)
		4.AP.3 - Decompose problems into smaller, manageable tasks which may be then be broken down further.	Input/Output: Computer Systems (4)
		4.AP.4 - Test and debug a program or algorithm to ensure it accomplishes the intended task.	Input/Output: Computer Systems (4)
	Impacts of Computing	4.IC.1 - Evaluate computing technologies that have changed the world and express how those technologies influence and are influenced by cultural practices.	Robotics and Automation (5)*
		4.IC.2 - Propose ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	Input/Output: Computer Systems (4)
	Computational Thinking	4.CT.1 - Determine specific aspects of patterns between or within problems that can be abstracted out to leave only the common or important elements.	Input/Output: Computer Systems (4)

Grade	Strand	Standard	PLTW Launch Modules
Fifth	Computing Systems	5.CS.1 - Create potential solutions to solve hardware and software problems using common troubleshooting strategies.	Robotics and Automation: Challenge (5)
	Network and the Internet	5.NI.1 - Model how information is broken down into smaller pieces, transmitted as packets (data groups) through multiple devices over networks and the Internet, and reassembled at the destination.	Input/Output: Computer Systems (4)
	Data and Analysis	5.DA.1 - Explain how the amount of space required to store data differs based on the type of data and level of detail and that the utility of that data varies.	This standard is currently not supported.
		5.DA.2 - Organize and share collected data visually to highlight relationships and support a claim.	Infection: Modeling and Simulation (5)
		5.DA.3 - Prioritize, analyze and use data to communicate ideas, highlight relationships and predict outcomes.	Infection: Modeling and Simulation (5)
	Algorithms and Programming	5.AP.1 - Compare and refine multiple algorithms for the same task and determine which is the most appropriate.	Infection: Modeling and Simulation (5)
		5.AP.2 - Decompose problems into smaller, manageable tasks which may themselves be deconstructed and analyzed.	Infection: Modeling and Simulation (5)
		5.AP.3 - Create programs by incorporating smaller portions of existing programs, to develop something new or add more advanced features.	Infection: Modeling and Simulation (5)
		5.AP.4 - Use an iterative process to plan and develop a program by considering the perspectives and preferences of others.	Infection: Modeling and Simulation (5)
		5.AP.5 - Recognize and observe intellectual property rights and give appropriate attribution when creating, remixing, or combining programs.	This standard is currently not supported.
		5.AP.6 - Describe choices made during program development using code comments, presentations, and demonstrations.	Infection: Modeling and Simulation (5)
	Impacts of Computing	5.IC.1 - Propose ways to improve the accessibility and usability of technology products for the diverse needs and wants of users.	Infection: Modeling and Simulation (5)
		5.IC.2 - Seek and explain the impact of diverse perspectives for the purpose of improving computational artifacts.	This standard is currently not supported.
	Computational Thinking	5.CT.1 - Develop algorithms in computer programs to solve problems, including unique and repeated sub-tasks within a larger program.	Infection: Modeling and Simulation (5)