PLTW Launch Standards Guide

New York State Computer Science and Digital Fluency Learning Standards (K-5)

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 New York State Computer Science and Digital Fluency Learning Standards. (K-5) 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.

This Standards Guide highlights PLTW Launch module support of the 4-6 grade band using PLTW Launch modules found in grades 4-5.

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

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Grades K - 1		
Impacts of Computing		
Sub-concept	**Standard**	**PLTW Launch Modules**
Society	K-1.IC.1 Identify and discuss how tasks are accomplished with and without computing technology.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.IC.2 Identify and explain classroom and home rules related to computing technologies and digital information.	Animated Storytelling (1) Grids and Games (2)
Ethics	K-1.IC.3 Identify computing technologies in the classroom, home and community.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.IC.4 Identify public and private spaces in our daily lives.	This standard currently not supported
	K-1.IC.5 *Standard begins in grade band 2-3	
Accessibility	K-1.IC.6 With teacher support, identify different ways people interact with computers and computing devices.	This standard currently not supported
Career Paths	K-1.IC.7 Identify multiple jobs that use computing technologies.	Animals and Algorithms (K) Animated Storytelling (1)

Computational Thinking		
Sub-concept	**Standard**	**PLTW Launch Modules**
Modeling and Simulation	K-1.CT.1 Identify and describe one or more patterns (found in nature or designed) and examine the patterns to find similarities and make predictions.	Animated Storytelling (1)
Data Analysis and Visualization	K-1.CT.2 Identify different kinds of data that can be collected from everyday life.	Animated Storytelling (1)
	K-1.CT.3 Identify ways to visualize data, and collaboratively create a visualization of data.	Animated Storytelling (1)
Abstraction and Decomposition	K-1.CT.4 Identify a problem or task and discuss ways to break it into multiple smaller steps.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.CT.5 Recognize that the same task can be described at different levels of detail.	This standard currently not supported
Algorithms and Programming	K-1.CT.6 Follow an algorithm to complete a task.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.CT.7 Identify terms that refer to different concrete values over time.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.CT.8 Identify a task consisting of steps that are repeated and recognize which steps are repeated.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.CT.9 Identify and fix (debug) errors within a simple algorithm.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.CT.10 Collaboratively create a plan that outlines the steps needed to complete a task.	Animals and Algorithms (K) Animated Storytelling (1)

Networks & System Design

Sub-concept	Standard	PLTW Launch Modules
Hardware and Software	K-1.NSD.1 Identify ways people provide input and get output from computing devices.	This standard currently not supported
	K-1.NSD.2 Identify basic hardware components that are found in computing devices.	Animated Storytelling (1)
	K-1.NSD.3 Identify basic hardware and/or software problems.	Animated Storytelling (1)
Networks and the Internet	K-1.NSD.4 Identify how protocols/rules help people share information over long distances.	This standard currently not supported
	K-1.NSD.5 Identify physical devices that can store information.	Animals and Algorithms (K) Animated Storytelling (1)

Cybersecurity

Sub-concept	Standard	PLTW Launch Modules
Risks	K-1.CY.1 Identify reasons for keeping information private.	Animals and Algorithms (K) Animated Storytelling (1)
Safeguards	K-1.CY.2 Identify why it is important to keep your account secure.	This standard currently not supported
	K-1.CY.3 *Standard begins in Grade Band 2-3	
	K-1.CY.4 Decode a word or short message using a simple code.	This standard currently not supported
Response	K-1.CY.5 Identify when it is appropriate to open and/or click on links or files.	This standard currently not supported

Digital Literacy

Sub-concept	Standard	PLTW Launch Modules
Digital Use	K-1.DL.1 Identify and explore the keys on a keyboard.	This standard currently not supported
	K-1.DL.2 Communicate and work with others using digital tools.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.DL.3 Conduct a basic search based on a provided keyword.	This standard currently not supported
	K-1.DL.4 Use a least one digital tool to create a digital artifact.	Animals and Algorithms (K) Animated Storytelling (1)
	K-1.DL.5 *Standard begins in Grade Band 4-6.	
Digital Citizenship	K-1.DL.6 *Standard begins in Grade Band 2-3.	
	K-1.DL.7 Identify actions that promote good digital citizenship, and those that do not.	Animals and Algorithms (K) Animated Storytelling (1)

Grades 2 - 3		
Impacts of Computing		
Sub-concept	**Standard**	**PLTW Launch Modules**
Society	2-3.IC.1 Identify and analyze how computing technology has changed the way people live and work.	Grids and Games (2)
	2-3.IC.2 Compare and explain rules related to computing technologies and digital information.	Grids and Games (2) Programming Patterns (3)
Ethics	2-3.IC.3 Discuss and explain how computing technology can be used in society and the world.	Grids and Games (2) Programming Patterns (3)
	2-3.IC.4 Identify public and private digital spaces.	Programming Patterns (3)
	2-3.IC.5 Identify and discuss how computers are programmed to make decisions without direct human input for daily life.	Grids and Games (2) Programming Patterns (3)
Accessibility	2-3.IC.6 Identify and discuss factors that make a computing device or software application easier or more difficult to use.	This standard currently not supported
Career Paths	2-3.IC.7 Identify a diverse range of roles and skills in computer science.	Grids and Games (2) Programming Patterns (3)

Computational Thinking		
Sub-concept	**Standard**	**PLTW Launch Modules**
Modeling and Simulation	2-3.CT.1 Create a model of an object or computational process in order to identify patterns and essential elements of the object or process.	Grids and Games (2) Programming Patterns (3)
Data Analysis and Visualization	2-3.CT.2 Identify and describe data collection tools from everyday life.	This standard currently not supported
	2-3.CT.3 Present the same data in multiple visual formats in order to tell a story about the data.	This standard currently not supported
Abstraction and Decomposition	2-3.CT.4 Identify multiple ways that the same problem could be decomposed into smaller steps.	Grids and Games (2) Programming Patterns (3)
	2-3.CT.5 Identify the essential details needed to perform a general task in different settings or situations.	This standard currently not supported
Algorithms and Programming	2-3.CT.6 Create two or more algorithms for the same task.	Grids and Games (2) Programming Patterns (3)
	2-3.CT.7 Name/label key pieces of information in a set of instructions, noting whether each name/label refers to a fixed or changing value.	This standard currently not supported
	2-3.CT.8 Identify steps within a task that should only be carried out under certain precise conditions.	This standard currently not supported
	2-3.CT.9 Identify and debug errors within an algorithm or program that includes sequencing or repetition.	Grids and Games (2) Programming Patterns (3)
	2-3.CT.10 Develop and document a plan that outlines specific steps taken to complete a project.	Grids and Games (2) Programming Patterns (3)

Networks & System Design		
Sub-concept	**Standard**	**PLTW Launch Modules**
Hardware and Software	2-3.NSD.1 Describe and demonstrate several ways a computer program can receive data and instructions (input) and can present results (output).	This standard currently not supported
	2-3.NSD.2 Explain the function of software in computing systems, using descriptive/precise language.	Grids and Games (2)
	2-3.NSD.3 Describe and attempt troubleshooting steps to solve a simple technology problem.	Grids and Games (2) Programming Patterns (3)
Networks and the Internet	2-3.NSD.4 Recognize that information can be communicated using different representations that satisfy different rules.	This standard currently not supported
	2-3.NSD.5 Describe and navigate to various locations where digital information can be stored.	Grids and Games (2) Programming Patterns (3)

Cybersecurity		
Sub-concept	**Standard**	**PLTW Launch Modules**
Risks	2-3.CY.1 Compare reasons why an individual should keep information private or make information public.	Grids and Games (2) Programming Patterns (3)
Safeguards	2-3.CY.2 Compare and contrast behaviors that do and do not keep information secure.	Grids and Games (2) Programming Patterns (3)
	2-3.CY.3 Identify why someone might choose to share an account, app access, or devices.	This standard currently not supported
	2-3.CY.4 Encode and decode a short message or phrase.	This standard currently not supported
Response	2-3.CY.5 Identify unusual activity of applications and devices that should be reported to a responsible adult.	Grids and Games (2) Programming Patterns (3)

Digital Literacy		
Sub-concept	**Standard**	**PLTW Launch Modules**
Digital Use	2-3.DL.1 Locate and use the main keys on a keyboard to enter text independently.	This standard currently not supported
	2-3.DL.2 Communicate and work with others using digital tools to share knowledge and convey ideas.	Grids and Games (2) Programming Patterns (3)
	2-3.DL.3 Conduct basic searches based on student identified keywords.	This standard currently not supported
	2-3.DL.4 Use a variety of digital tools and resources to create digital artifacts.	Grids and Games (2) Programming Patterns (3)
	2-3.DL.5 * Standard begins in Grade Band 4-6.	
Digital Citizenship	2-3.DL.6 Describe ways that information may be shared online.	Grids and Games (2) Programming Patterns (3)
	2-3.DL.7 Understand what it means to be part of a digital community and describe ways to keep it a safe, respectful space.	Grids and Games (2) Programming Patterns (3)

Grades 4 - 6		
Impacts of Computing		
Sub-concept	**Standard**	**PLTW Launch Modules**
Society	4-6.IC.1 Describe computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	Robotics and Automation: Challenge (5)
	4-6.IC.2 Explain how laws impact the use of computing technologies and digital information.	This standard currently not supported
Ethics	4.6.IC.3 Explain current events that involve computing technologies.	This standard currently not supported
	4.6.IC.4 Explain who has access to data in different digital spaces.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4.6.IC.5 Explain how computer systems play a role in human decision-making.	This standard currently not supported
Accessibility	4-6.IC.6 Identify and explain ways to improve the accessibility and usability of a computing device or software application for the diverse needs and wants of users.	Input/Output: Computer Systems (4)
Career Paths	4-6.IC.7 Identify a diverse range of role models in computer science.	This standard currently not supported

Computational Thinking		
Sub-concept	**Standard**	**PLTW Launch Modules**
Modeling and Simulation	4-6.CT.1 Develop a computational model of a system that shows changes in output when there are changes in inputs.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5)
Data Analysis and Visualization	4-6.CT.2 Collect digital data related to a real-life question or need.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5)
	4-6.CT.3 Visualize a simple data set in order to highlight relationships and persuade an audience.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5)
Abstraction and Decomposition	4-6.CT.4 Decompose a problem into smaller named tasks, some of which can themselves be decomposed into smaller steps.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.CT.5 Identify and name a task within a problem that gets performed multiple times while solving that problem, but with slightly different concrete details each time.	This standard currently not supported
Algorithms and Programming	4-6.CT.6 Compare two or more algorithms and discuss the advantages and disadvantages of each for a specific task.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.CT.7 Identify pieces of information that might change as a program or process runs.	This standard currently not supported
	4-6.CT.8 Develop algorithms or programs that use repetition and conditionals for creative expression or to solve a problem.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5)
	4-6.CT.9 Explain each step of an algorithm or program that includes repetition and conditionals for the purposes of debugging.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5)
	4-6.CT.10 Describe the steps taken and choices made to design and develop a solution using an iterative design process.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)

Networks & System Design		
Sub-concept	**Standard**	**PLTW Launch Modules**
Hardware and Software	4-6.NSD.1 Propose improvements to the design of a computing technology based on an analysis of user interactions with that technology.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.NSD.2 Model how computer hardware and software work together as a system to accomplish tasks.	Input/Output: Computer Systems (4)
	4-6.NSD.3 Determine potential solutions to solve hardware and software problems using common troubleshooting strategies.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
Networks and the Internet	4-6.NSD.4 Model how data is structured to transmit through a network.	Input/Output: Computer Systems (4)
	4-6.NSD.5 Describe that data can be stored locally or remotely in a network.	This standard currently not supported

Cybersecurity		
Sub-concept	**Standard**	**PLTW Launch Modules**
Risks	4-6.CY.1 Explain why different types of information might need to be protected.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
Safeguards	4-6.CY.2 Describe common safeguards for protecting personal information.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.CY.3 Describe trade-offs between allowing information to be public and keeping information private and secure.	This standard currently not supported
	4-6.CY.4 Model and explain the purpose of simple cryptographic methods.	This standard currently not supported
Response	4-6.CY.5 Explain suspicious activity of applications and devices.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)

Digital Literacy		
Sub-concept	**Standard**	**PLTW Launch Modules**
Digital Use	4-6.DL.1 Type on a keyboard while demonstrating proper keyboarding technique.	This standard currently not supported
	4-6.DL.2 Select appropriate digital tools to communicate and collaborate while learning with others.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.DL.3 Conduct and refine advanced multi-criteria digital searches to locate content relevant to varied learning goals.	This standard currently not supported
	4-6.DL.4 Use a variety of digital tools and resources to create and revise digital artifacts.	This standard currently not supported
	4-6.DL.5 Identify common features of digital technologies.	This standard currently not supported
Digital Citizenship	4-6.DL.6 Describe persistence of digital information and explain how actions in online spaces can have consequences.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)
	4-6.DL.7 Identify and describe actions in online spaces that could potentially be unsafe or harmful.	Input/Output: Computer Systems (4) Infection: Modeling and Simulation (5) Robotics and Automation: Challenge (5)