



PLTW Launch Standards Guide

Texas Essential Knowledge and Skills Technology Applications TEKS (K-5)

PLTW Launch Modules have been thoughtfully connected to the TEKS for use by Texas educators. Each grade level contains 3-6 PLTW Launch Modules that are the “best-fit” for the Science TEKS; for consistency, the same modules are used in this guide. When grade level suggestions vary from the intended grade level it is shown like this: *Light and Sound (1)* to indicate that the module was originally developed for use in 1st Grade.

Texas educators also have the flexibility to utilize the PLTW Launch Modules in the grade level that works best for their students.



Please note: The information included in this document is subject to change. As with all course materials, we will continue to update as more information becomes available.

Kindergarten Technology Applications TEKS

Standard Connections



		Matter: Floating and Sinking (PK)	Structure and Function: Exploring Design	Light and Sound (1)	Sunlight and Weather	Living Things: Needs and Impacts	Animals and Algorithms	Structure and Function: Human Body
Computational thinking	K.1.A identify a problem or task such as making a sandwich and break it down (decompose) into smaller pieces;							
	K.1.B identify simple patterns and make predictions based on the patterns; and							
	K.1.C identify algorithms (step-by-step instructions) using a sequential process such as first, next, then, and last.							
	K.2 create a sequence of code with or without technology such as solving a maze using drag-and-drop programming or creating step-by-step directions for student movement to a specific location.							
Creativity and innovation	K.3.A practice personal skills, including following directions, needed to be successfully implement design processes; and							
	K.3.B use a design process with components such as asking questions, brainstorming, or storyboarding to identify and solve authentic problems with adult assistance.							
Data	K.4.A communicate an understanding that data is information collected about people, events, or objects such as computer searches and weather patterns; and							
	K.4.B communicate with adult assistance the idea that digital devices can search for and retrieve information.							
Digital citizenship	K.5 identify and demonstrate responsible behavior within a digital environment.							
	K.6.A demonstrate acceptable use of digital resources and devices as outlined in local policies or acceptable use policy (AUP); and							
	K.6.B communicate an understanding that all digital content has owners.							
	K.7.A identify ways to keep a user account safe, including not sharing login information and logging off accounts and devices; and							
	K.7.B identify and discuss what information is safe to share online such as hobbies and likes and dislikes and what information is unsafe such as identifying information.							
Practical technology concepts	K.8.A use a variety of applications, devices, and online learning environments to engage with content;							
	K.8.B identify basic computer hardware, including a variety of input and output devices, and software using accurate terminology;							
	K.8.C perform software application functions such as opening an application and modifying, printing, and saving digital artifacts using a variety of developmentally appropriate digital tools and resources;							
	K.8.D practice ergonomically correct keyboarding techniques and developmentally appropriate hand and body positions; and							
	K.8.E identify, locate, and practice using keys on the keyboard, including letters, numbers, and special keys such as space bar and backspace.							

1st Grade Technology Applications TEKS

Standard Connections



		Pushes and Pulls (K)	The Changing Earth (2)	Designs Inspired by Nature	Animated Storytelling
Computational thinking	1.1.A identify and discuss a problem or task and break down (decompose) the solution into sequential steps;				
	1.1.B identify the simple patterns found in the solutions to everyday problems or tasks; and				
	1.1.C create a simple algorithm (step-by-step instructions) for an everyday task.				
	1.2 create a sequence of code that solves a simple problem with or without technology.				
Creativity and innovation	1.3.A practice personal skills and behaviors, including following directions and mental agility, needed to implement a design process successfully; and				
	1.3.B use a design process with components such as asking questions, brainstorming, or storyboarding to identify and solve authentic problems with adult assistance.				
	1.4 identify examples of how technology has impacted different communities.				
Data	1.5.A explore and collect many types of data such as preferences or daily routines of people, events, or objects; and				
	1.5.B conduct a basic search using provided keywords and digital sources with adult assistance.				
Digital citizenship	1.6 describe and demonstrate respectful behavior within a digital environment.				
	1.7.A explain and demonstrate the importance of acceptable use of digital resources and devices as outlined in local policies or acceptable use policy (AUP); and				
	1.7.B communicate an understanding that all digital content has owners and explain the importance of respecting others' belongings as they apply to digital content and information.				
	1.8.A identify ways to keep a user account safe, including not sharing login information and logging off accounts and devices.				
	1.8.B identify and discuss what information is safe to share online such as hobbies and likes and dislikes and what information is unsafe such as identifying information; and				
	1.8.C discuss and define cyberbullying with teacher support and guidance.				
Practical technology concepts	1.9.A select and use a variety of applications, devices, and online learning environments to create an original product;				
	1.9.B describe basic computer hardware, including a variety of input and output devices, and software using accurate terminology;				
	1.9.C perform software application functions such as file management, collaboration, and the creation and revision of digital artifacts using a variety of developmentally appropriate digital tools and resources;				
	1.9.D practice ergonomically correct keyboarding techniques and developmentally appropriate hand and body positions; and				
	1.9.E identify, locate, and practice using keys on the keyboard, including upper- and lower-case letters, numbers, and special keys such as space bar, shift, and backspace.				

2nd Grade Technology Applications TEKS

Standard Connections



		Materials Science: Properties of Matter	Materials Science: Form and Function	Light: Observing the Sun, Moon, and Stars (1)	Weather: Factors and Hazards (3)	Living Things: Diversity of Life	Animal Adaptations (1)	Grids and Games
Computational thinking	2.1.A identify and communicate a problem or task and break down (decompose) multiple solutions into sequential steps;							
	2.1.B identify complex patterns and make predictions based on the patterns;							
	2.1.C analyze a plan with adult assistance that outlines the steps needed to complete a task; and							
	2.1.D create and troubleshoot simple algorithms (step-by-step instructions) that include conditional such as if-then statements as they apply to an everyday task.							
	2.2.A identify and explore what a variable is in a sequence of code; and							
	2.2.B use a design process to create a sequence of code that includes loops to solve a simple problem with or without technology.							
Creativity and innovation	2.3.A demonstrate personal skills and behaviors, including effective communication, following directions, and mental agility, needed to implement a design process successfully; and							
	2.3.B apply a design process with components such as testing and reflecting to create new useful solutions to identify and solve for authentic problems.							
	2.4 identify and analyze how technology impacts different communities.							
Data	2.5.A identify and collect non-numerical data, such as weather patterns, preferred reading genres, and holidays; and							
	2.5.B conduct a basic search independently using provided keywords and digital sources.							
	2.6 use a digital tool to individually or collaboratively create and communicate data visualizations such as pictographs and bar graphs.							
Digital citizenship	2.7 participate in digital environments to develop responsible and respectful interactions							
	2.8.A explain and demonstrate the importance of acceptable use of digital resources and devices as outlined in local policies or acceptable use policy (AUP); and							
	2.8.B communicate an understanding that all digital content has owners and explain the importance of respecting others' belongings as they apply to digital content and information.							
	2.9.A demonstrate account safety, including creating a strong password and logging off accounts and devices;							
	2.9.B compare and contrast private and public information and discuss what is safe to be shared online and with whom; and							
	2.9.C discuss cyberbullying and identify examples.							
Practical technology concepts	2.10.A select and use a variety of applications, devices, and online learning environments to create and share content;							
	2.10.B identify, compare, and describe the function of basic computer hardware, including a variety of input and output devices, and software applications using accurate terminology;							
	2.10.C operate a variety of developmentally appropriate digital tools and resources to perform software application functions such as reviewing digital artifacts and designing solutions to problems;							
	2.10.D practice ergonomically correct keyboarding techniques and developmentally appropriate hand and body positions; and							
	2.10.E identify, locate, and practice using keys on the keyboard, including secondary actions of different keys such as “@,” “#,” “\$,” and “?”.							

3rd Grade Technology Applications TEKS

Standard Connections



		Stability and Motion: Forces and Interactions	Stability and Motion: Science of Flight	Earth: Human Impact and Natural Disasters (4)	Environmental Changes	Life Cycles and Survival	Programming Patterns (3)
Computational thinking	3.1.A decompose story problems into smaller, manageable subproblems and identify a solution to the problems;						
	3.1.B identify simple and complex patterns in story problems;						
	3.1.C develop a plan collaboratively and document a plan that outlines specific steps taken to complete a project; and						
	3.1.D debug simple algorithms (set of procedures) by identifying and removing errors.						
	3.2.A use variables within a program to store data; and						
	3.2.B use a design process to create programs that include sequences, loops, and conditionals to express ideas or address a problem.						
Creativity and innovation	3.3.A explain the importance of and demonstrate personal skills and behaviors, including metacognition, effective communication, following directions, and mental agility, needed to implement the design process successfully; and						
	3.3.B apply an appropriate design process using components such as peer and teacher feedback to create new and useful solutions to authentic problems.						
	3.4 define emerging technologies						
Data	3.5.A identify and collect numerical data such as the price of goods or temperature; and						
	3.5.B use various search strategies with adult assistance.						
	3.6 analyze data in graphs to identify and discuss trends and inferences.						
	3.7 use digital tools to communicate and publish results to inform an intended audience.						

3rd Grade Technology Applications TEKS

Standard Connections



		Stability and Motion: Forces and Interactions	Stability and Motion: Science of Flight	Earth: Human Impact and Natural Disasters (4)	Environmental Changes	Life Cycles and Survival	Programming Patterns (3)
Digital citizenship	3.8.A define digital footprint						
	3.8.B define digital etiquette; and						
	3.8.C define digital collaboration.						
	3.9.A demonstrate adherence to local acceptable use policy (AUP) that reflects positive social behavior in the digital environment;						
	3.9.B communicate the purpose of copyright law and identify appropriate and inappropriate uses of digital content and information; and						
	3.9.C identify the required elements of citations for digital forms of media.						
	3.10.A demonstrate account safety, including creating a strong password and logging off accounts and devices;						
	3.10.B describe ways to employ safe practices such as protecting digital identify and avoid online dangers as accessing unsafe websites or clicking on suspicious links;						
	3.10.C identify the required elements of citations for digital forms of media.						
Practical technology concepts	3.11.A compare and contrast applications such as word processor, spreadsheet, and presentation tools for relevance to an assigned task; and						
	3.11.B perform software application functions such as inserting or deleting text, inserting images, and formatting page layout and margins.						
	3.12.A communicate an understanding of terminology related to operating systems and network systems such as internet, intranet, wireless network, short-range wireless technology, and learning management systems;						
	3.12.B identify where and how to save files such as using appropriate naming conventions and effective file management strategies;						
	3.12.C demonstrate proper touch keyboarding techniques with accuracy and ergonomic strategies such as correct hand and body positions;						
	3.12.D identify and practice using keyboard or other input device shortcuts for actions such as copy, paste, undo, or closing windows; and						
3.12.E identify minor technical problems with hardware and software and solve the issues with assistance.							

4th Grade Technology Applications TEKS

Standard Connections



		Earth's Water and Interconnected Systems (5)	Earth: Past, Present, and Future	Organisms: Structure and Function	Variation of Traits (3)	Input/Output: Computer Systems	Input/Output: Human Brain
Computational thinking	4.1.A decompose story problems into smaller, manageable subproblems and discuss and document various solutions to the problems;						
	4.1.B identify patterns in story problems and make predictions based on the pattern;						
	4.1.C communicate design plans and solutions using a variety of options; and						
	4.1.D debug algorithms (set of procedures) by identify and removing errors.						
	4.2.A use variables within a program to modify data; and						
	4.2.B use a design process to create programs that include sequences, loops, and conditionals to express ideas or address a problem.						
Creativity and innovation	4.3.A explain the importance of and demonstrate personal skills and behaviors, including problem solving and questioning, effective communication, following directions, mental agility, and metacognition, that are needed to implement a design process successfully; and						
	4.3.B apply an appropriate design process that includes components to improve processes and refine original products for authentic problems.						
	4.4 identify examples of emerging technologies.						
Data	4.5.A classify numerical and non-numerical data; and						
	4.5.B identify and collect data by using various search strategies, including two or more keywords within specific parameters.						
	4.6 use digital tools to transform and make inferences about data to answer a question.						
	4.7 use digital tools to communicate results of an inquiry to inform an intended audience.						

4th Grade Technology Applications TEKS

Standard Connections



		Earth's Water and Interconnected Systems (5)	Earth: Past, Present, and Future	Organisms: Structure and Function	Variation of Traits (3)	Input/Output: Computer Systems	Input/Output: Human Brain
Digital citizenship	4.8.A describe how information retained online creates a permanent digital footprint;						
	4.8.B describe appropriate digital etiquette for various forms of digital collaboration such as text, email, and online chat; and						
	4.8.C demonstrate appropriate digital etiquette for various forms of digital communication such as shared documents, video conferencing, and other platforms.						
	4.9.A demonstrate adherence to local acceptable use policy (AUP) and explain the importance of responsible and ethical technology use;						
	4.9.B describe the rights and responsibilities of a creator, define copyright law, and explain how copyright law applies to creative work; and						
	4.9.C create citations for digital forms of media with assistance.						
	4.10.A demonstrate account safety, including creating a strong password of logging off devices, and explain the importance of these practices;						
	4.10.B identify and discuss types of data collection tools such as cookies, pop-ups, smart devices, and unsecured networks and explain why it is important to maintain digital privacy; and						
	4.10.C discuss and explain how to respond to cyberbullying, including advocating for self and others.						
Practical technology concepts	4.11.A evaluate and choose applications for relevance to an assigned task; and						
	4.11.B perform software application functions such as outline options, bulleting, and numbering lists, and perform editing functions such as finding and replacing.						
	4.12.A communicate an understanding of terminology related to virtual systems such as video conferencing, augmented reality, and virtual reality environments;						
	4.12.B evaluate where and how to save, including the use of appropriate naming conventions, and effective file management strategies and folder structures;						
	4.12.C demonstrate proper touch keyboarding techniques with speed and accuracy and ergonomic strategies such as correct hand and body positions;						
	4.12.D identify and practice using cross-curricular symbols or other input device shortcuts on a keyboard; and						
4.12.E use troubleshooting strategies to solve minor technical problems with hardware and software such as restarting software or rebooting hardware.							

5th Grade Technology Applications TEKS

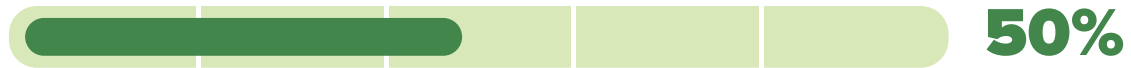
Standard Connections



		Matter: Properties and Reactions	Energy Exploration (4)	Waves and the Properties of Light (4)	Patterns in the Universe	Ecosystems: Flow of Matter and Energy	Robotics and Automation	Robotics and Automation: Challenge	Infection: Detection	Infection: Modeling and Simulation
Computational thinking	5.1.A decompose a real-world problem into smaller, manageable subproblems using graphic organizers such as learning maps, concept maps, or other representations of data;									
	5.1.B identify patterns in real-world problems and make predictions based on the pattern;									
	5.1.C design and create an outline collaboratively that documents a problem, possible solutions, and an expected timeline for the development of a coded solution; and									
	5.1.D compare multiple algorithms for the same task and determine which algorithm is the most appropriate for that task;									
	5.2.A use variables within a program to store and modify data;									
	5.2.B use a design process to create block-based programs that include sequences, loops, conditionals, and events to solve an everyday problem; and									
	5.2.C analyze a code and how the code may be reused to develop new or improved programs.									
Creativity and innovation	5.3.A explain the importance of and demonstrate personal skills and behaviors, including persistence, effective communication, following directions, mental agility, metacognition, problem solving and questioning, that are needed to implement a design process successfully; and									
	5.3.B apply an appropriate design process that includes components to generate multiple solutions for an authentic problem and develop original products.									
	5.4 predict how emerging technologies may impact different communities.									
Data	5.5.A identify and collect quantitative and qualitative data with digital tools; and									
	5.5.B identify keyword(s), Boolean operators, and limiters within provided search strategies.									
	5.6 use digital tools to analyze and transform data and make inferences to answer questions.									
	5.7 use digital tools to communicate and display data using appropriate visualization to inform an intended audience.									

5th Grade Technology Applications TEKS

Standard Connections



		Matter: Properties and Reactions	Energy Exploration (4)	Waves and the Properties of Light (4)	Patterns in the Universe	Ecosystems: Flow of Matter and Energy	Robotics and Automation	Robotics and Automation: Challenge	Infection: Detection	Infection: Modeling and Simulation
Digital citizenship	5.8.A identify the components of a digital footprint such as online activity, game use, or social media platforms;									
	5.8.B describe appropriate digital etiquette for addressing different audiences such as peers, teachers, and other adults; and									
	5.8.C apply appropriate digital etiquette for collaborating with different audiences such as peers, teachers, and other adults.									
	5.9.A demonstrate adherence to local acceptable use policy (AUP) and explain the importance of responsible and ethical technology use;									
	5.9.B describe the purpose of copyright law and the possible consequences for inappropriate use of digital content; and									
	5.9.C create citations for digital forms of media with assistance.									
	5.10.A discuss cybersecurity strategies such as using a secured internet connection to protect digital information;									
	5.10.B discuss how data collection technology is used to track online navigation and identify strategies to maintain digital privacy and security; and									
5.10.C discuss and identify how interactions can escalate online and explain ways to stand up to cyberbullying, including advocating for self and others.										
Practical technology concepts	5.11.A identify file types for text, graphics, and multimedia files; and									
	5.11.B perform software application functions, including inserting or deleting text and images and formatting tools or options.									
	5.12.A describe and evaluate operating systems, learning management systems, virtual systems, and network systems such as internet, intranet, wireless network, and short-range wireless technology;									
	5.12.C demonstrate proper touch keyboarding techniques with increasing speed and accuracy and ergonomic strategies such as correct hand and body positions;									
	5.12.D demonstrate keyboard or other input device shortcuts with fluency; and									
5.12.E use help sources to research application features and solve software issues.										