# PLTW Launch Modules Overview K-5

## Computer Science

### Texas Essential Knowledge and Skills Technology Applications (TEKS)

This Module Overview highlights the PLTW Launch Modules with the most connections to Computer Science through the Technology Applications TEKS. All PLTW Launch Modules contain connections to this body of standards, and more detail on all modules can be found in the PLTW Launch Standards Guide for Technology Applications.

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.

PLTW COMPUTER SCIENCE

PLTW ENGINEERING

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.

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# LAUNCH K-5 Technology Applications TEKS

| | Matter and its properties (energy) | | Force, motion, and energy | | Earth and space | | Organisms and environments | | <> | |
|---|---|---|---|---|---|---|---|---|---|---|
| **K** | 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 |
| **1** | | | Pushes and Pulls (K) | | The Changing Earth (2) | | Designs Inspired by Nature | | Animated Storytelling | |
| **2** | 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 | |
| **3** | 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 | |
| **4** | | | | | 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 |
| **5** | 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: Challenge<br>Infection: Modeling and Simulation | Robotics and Automation<br>Infection: Detection |

# PLTW LAUNCH Technology Applications

| | | Essential Questions | Technology Application TEKS | |
|---|---|---|---|---|
| K | **Animals and Algorithms** | How can you use algorithms in your daily life?<br>How can you use computer programming to complete a task?<br>How can a step-by-step process help you design or improve a solution to a problem? | K.1.A → C<br>K.2<br>K.3.A, B | K.5<br>K.7.A, B<br>K.8.A<br>K.8.B |
| 1 | **Animated Storytelling** | In what ways can stories be told using different tools?<br>How does technology impact our lives?<br>How can a step-by-step process help you design or improve a solution to a problem? | 1.1.A → C<br>1.2<br>1.3.A, B<br>1.3.B | 1.7.B<br>1.8.A → C<br>1.9.A, B<br>1.9.A, C |
| 2 | **Grids and Games** | How can learning from others help you design or improve a solution to a problem?<br>In what ways can computer science impact our lives? | 2.1.A → D<br>2.2.B<br>2.3.A, B | 2.7<br>2.9.A → C<br>2.10.A → C |
| 3 | **Programming Patterns** | How does technology impact our lives?<br>How can a step-by-step process help you design or improve a solution to a problem? | 3.3.A, B<br>3.8.A<br>3.10.A, C | 3.1.A → D<br>3.2.B |
| 4 | **Input/Output: Computer Systems** | How does technology impact our lives?<br>In what ways do computing systems work together to accomplish tasks?<br>How can a step-by-step process help you design or improve a solution to a problem? | 4.1.A → D<br>4.2.A, B<br>4.3.A, B<br>4.4<br>4.5.A<br>4.6 | 4.7<br>4.8.A<br>4.9.A<br>4.10.A, C<br>4.12.B, E |
| 5 | **Robotics and Automation: Challenge** | How can autonomous robots be used to help people?<br>How can a step-by-step process help you design or improve a solution to a problem? | 5.2.B, C<br>5.3.A, B<br>5.4<br>5.5.B | |
| | **Infection: Modeling and Simulation** | How do computer models and simulations help us to make sense of scientific phenomena?<br>In what ways can computer models and simulations be used to predict outcomes?<br>How can a step-by-step process help you design or improve a solution to a problem? | 5.1.A → D<br>5.2.A → C<br>5.3.B | 5.4<br>5.5.A<br>5.6 |