PLTW Launch Standards Guide

Arizona Science Standards

PLTW Launch (PreK-5) is designed to support your 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 Guides shows how each PLTW Launch module supports the Arizona Science Standards. 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.

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

Kindergarten

		Performance Expectation	PLTW Launch Modules
Physical Science	K.P2U1.1	Investigate how senses can detect light, sound, and vibrations even when they come from far away; use the collected evidence to develop and support an explanation.	Life Science: Living and Nonliving Things (PreK) Light and Sound (1)
	K.P2U2.2	Design and evaluate a tool that helps people extend their senses.	This standard is currently not supported.
Earth and Space Science	K.E2U1.3	Observe, record, and ask questions about temperature, precipitation, and other weather data to identify patterns or changes in local weather.	Sunlight and Weather (K)
	K.E2U1.4	Observe, describe, ask questions, and predict seasonal weather patterns; and how those patterns impact plants and animals (including humans).	Sunlight and Weather (K)
	K.E2U1.5	Observe and ask questions about patterns of the motion of the sun, moon, and stars in the sky.	Light: Observing the Sun, Moon, and Stars (1)
Life Science	K.L1U1.6	Obtain, evaluate, and communicate information about how organisms use different body parts for survival.	Animal Adaptations (1)
	K.L1U1.7	Observe, ask questions, and explain how specialized structures found on a variety of plants and animals (including humans) help them sense and respond to their environment.	Life Science: Living and Nonliving Things (PreK) Animal Adaptations (1)
	K.L1U1.8	Observe, ask questions, and explain the differences between the characteristics of living and non-living things.	Life Science: Living and Nonliving Things (PreK)

First Grade

	Standard	Performance Expectation	PLTW Launch Modules
Physical Science	1.P2U1.1	Plan and carry out investigations demonstrating the effect of placing objects made with different materials in the path of a beam of light and predict how objects with similar properties will affect the beam of light.	Light and Sound (1)
	1.P2U1.2	Use models to provide evidence that vibrating matter creates sound and sound can make matter vibrate.	Light and Sound (1)
	1.P2U1.3	Plan and carry out investigations which demonstrate how equal forces can balance objects and how unequal forces can push, pull, or twist objects, making them change their speed, direction, or shape.	Pushes and Pulls (K)
	1.P2U1.4	Design and evaluate ways to increase or reduce heat from friction between two objects.	This standard is currently not supported.
Earth and Space Science	1.E1U1.5	Obtain, evaluate, and communicate information about the properties of Earth materials and investigate how humans use natural resources in everyday life.	This standard is currently not supported.
Life Science	1.L1U1.6	Observe, describe, and predict life cycles of animals and plants.	This standard is currently not supported.
	1.L2U2.7	Develop and use models about how living things use resources to grow and survive; design and evaluate habitats for organisms using earth materials.	Living Things: Needs and Impacts (K) Materials Science: Form and Function (2)
	1.L2U1.8	Construct an explanation describing how organisms obtain resources from the environment including materials that are used again by other organisms.	Living Things: Needs and Impacts (K) Materials Science: Form and Function (2)
	1.L3U1.9	Obtain, evaluate, and communicate information to support an evidence-based explanation that plants and animals produce offspring of the same kind, but offspring are generally not identical to each other or their parents.	Designs Inspired by Nature (1)
	1.L4U1.10	Develop a model to describe how animals and plants are classified into groups and subgroups according to their similarities.	This standard is currently not supported.
	1.L4U3.11	Ask questions and explain how factors can cause species to go extinct.	This standard is currently not supported.

Second Grade

	Standard	Performance Expectation	PLTW Launch Modules
Physical Science	2.P1U1.1	Plan and carry out an investigation to determine that matter has mass, takes up space, and is recognized by its observable properties; use the collected evidence to develop and support an explanation.	Materials Science: Properties of Matter (2)
	2.P1U1.2	Plan and carry out investigations to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter.	Materials Science: Properties of Matter (2)
	2.P4U1.3	Obtain, evaluate and communicate information about ways heat energy can cause change in objects or materials.	Materials Science: Properties of Matter (2)
Earth and Space Science	2.E1U1.4	Observe and investigate how wind and water change the shape of the land resulting in a variety of landforms.	The Changing Earth (2)
	2.E1U1.5	Develop and use models to represent that water can exist in different states and is found in oceans, glaciers, lakes, rivers, ponds, and the atmosphere.	The Changing Earth (2)
	2.E1U2.6	Analyze patterns in weather conditions of various regions of the world and design, test, and refine solutions to protect humans from severe weather conditions.	Weather: Factors and Hazards (3)
	2.E1U3.7	Construct an argument from evidence regarding positive and negative changes in water and land systems that impact humans and the environment.	Environmental Changes (3)
	2.E2U1.8	Observe and explain the Sun's position at different times during a twenty-four-hour period and changes in the apparent shape of the Moon from one night to another.	Light: Observing the Sun, Moon, and Stars (1)
Life Science	2.L2U1.9	Obtain, analyze, and communicate evidence that organisms need a source of energy, air, water, and certain temperature conditions to survive.	Living Things: Diversity of Life (2)
	2.L2U1.10	Develop a model representing how life on Earth depends on energy from the Sun and energy from other organisms.	Living Things: Diversity of Life (2)

Third Grade

	Standard	Performance Expectation	PLTW Launch Modules
Physical Science	3.P2U1.1	Ask questions and investigate the relationship between light, objects, and the human eye.	Waves and the Properties of Light (4)
	3.P2U1.2	Plan and carry out an investigation to explore how sound waves affect objects at varying distances.	This standard is currently not supported.
	3.P4U1.3	Develop and use models to describe how light and sound waves transfer energy.	Waves and the Properties of Light (4)
Earth and Space Science	3.E1U1.4	Construct an explanation describing how the Sun is the primary source of energy impacting Earth systems.	This standard is currently not supported.
Life Science	3.L1U1.5	Develop and use models to explain that plants and animals (including humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction.	Organisms: Structure and Function (4)
	3.L1U1.6	Plan and carry out investigations to demonstrate ways plants and animals react to stimuli.	Organisms: Structure and Function (4)
	3.L2U1.7	Develop and use system models to describe the flow of energy from the Sun to and among living organisms.	This standard is currently not supported.
	3.L2U1.8	Construct an argument from evidence that organisms are interdependent.	Life Cycles and Survival (3) Living Things: Diversity of Life (2)

Fourth Grade

	Standard	Performance Expectation	PLTW Launch Modules
Physical Science	4.P4U1.1	Develop and use a model to demonstrate how a system transfers energy from one object to another even when the objects are not touching.	Energy Exploration (4)
	4.P4U1.2	Develop and use a model that explains how energy is moved from place to place through electric currents.	Energy Exploration (4)
	4.P2U1.3	Develop and use a model to demonstrate magnetic forces.	Stability and Motion: Forces and Interactions (3)
	4.P4U3.4	Engage in argument from evidence on the use and impact of renewable and nonrenewable resources to generate electricity.	Earth: Human Impact and Natural Disasters (4)
Earth and Space Science	4.E1U1.5	Use models to explain seismic waves and their effect on the Earth.	Earth: Past, Present, and Future (4)
	4.E1U1.6	Plan and carry out an investigation to explore and explain the interactions between Earth's major systems and the impact on Earth's surface materials and processes.	Earth's Water and Interconnected Systems (5)
	4.E1U1.7	Develop and/or revise a model using various rock types, fossil location, and landforms to show evidence that Earth's surface has changed over time.	Earth: Past, Present, and Future (4)
	4.E1U1.8	Collect, analyze, and interpret data to explain weather and climate patterns.	Weather: Factors and Hazards (3)
	4.E1U3.9	Construct and support an evidence-based argument about the availability of water and its impact on life.	Earth: Past, Present, and Future (4)
	4.E1U2.10	Define problem(s) and design solution(s) to minimize the effects of natural hazards.	Earth: Past, Present, and Future (4) Weather: Factors and Hazards (3)
Life Science	4.L4U1.11	Analyze and interpret environmental data to demonstrate that species either adapt and survive or go extinct over time.	Environmental Changes (3)

Fifth Grade

	Standard	Performance Expectation	PLTW Launch Modules
Physical Science	5.P1U1.1	Analyze and interpret data to explain that matter of any type can be subdivided into particles too small to see and, in a closed system, if properties change or chemical reactions occur, the amount of matter stays the same.	Matter: Properties and Reactions (5)
	5.P1U1.2	Plan and carry out investigations to demonstrate that some substances combine to form new substances with different properties and others can be mixed without taking on new properties.	Matter: Properties and Reactions (5)
	5.P2U1.3	Construct an explanation using evidence to demonstrate that objects can affect other objects even when they are not touching.	This standard is currently not supported.
	5.P3U1.4	Obtain, analyze, and communicate evidence of the effects that balanced and unbalanced forces have on the motion of objects.	This standard is currently not supported.
	5.P3U2.5	Define problems and design solutions pertaining to force and motion.	Energy Exploration (4)
	5.P4U1.6	Analyze and interpret data to determine how and where energy is transferred when objects move.	Energy Exploration (4)
Earth and Space Science	5.E2U1.7	Develop, revise, and use models based on evidence to construct explanations about the movement of the Earth and Moon within our solar system.	Patterns in the Universe (5)
	5.E2U1.8	Obtain, analyze, and communicate evidence to support an explanation that the gravitational force of Earth on objects is directed toward the planet's center.	Earth's Water and Interconnected Systems (5)
Life Science	5.L3U1.9	Obtain, evaluate, and communicate information about patterns between the offspring of plants, and the offspring of animals (including humans); construct an explanation of how genetic information is passed from one generation to the next.	This standard is currently not supported.
	5.L3U1.10	Construct an explanation based on evidence that the changes in an environment can affect the development of the traits in a population of organisms.	This standard is currently not supported.
	5.L4U3.11	Obtain, evaluate, and communicate evidence about how natural and human-caused changes to habitats or climate can impact populations.	Earth: Human Impact and Natural Disasters (4)
	5.L4U3.12	Construct an argument based on evidence that inherited characteristics can be affected by behavior and/or environmental conditions.	This standard is currently not supported.