MARY GAGE PETERSON ELEMENTARY

Science at Peterson

At Peterson, Project Lead the Way (PLTW) is utilized in K-5 classrooms. See below for more details and how you can support your student with science at Peterson.

PLTW (K-5)
PLTW Launch (PreK-5) taps into students' exploratory nature, engages them in learning that feels like play, and encourages them to keep discovering – now and for any future they choose.

Project Lead the Way Scope and Sequence			
Kindergarten	Structure and Function: Exploring Design Animals and Algorithms	Pushes and Pulls Sunlight and Weather	Structure and Function: Human Body Living Things: Needs and Impacts
1st Grade	Light and Sound Animated Storytelling	Light: Observing the Sun, Moon, and Stars	Animal Adaptations Designs Inspired by Nature
2nd Grade	Materials Science: Properties of Matter Grids and Games	Materials Science: Form and Function	The Changing Earth Living Things: Diversity of Life
3rd Grade	Stability and Motion: Science of Flight Programming Patterns Environmental Changes	Stability of Motion: Forces and Interactions	Variation of Traits Life Cycles and Survival Weather: Factors and Hazards
4th Grade	Input/Output: Computer Systems Organisms: Structure and Function Energy Exploration	Earth: Human Impact and Natural Disasters	Waves and Properties of Light Input/Output: Human Brain Earth: Past, Present, and Future

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5th Grade	Robotics and Automation Infection: Modeling and Simulation Patterns in the Universe	Robotics and Automation: Challenge Earth's Water and Interconnected Systems	Infection: Detection Ecosystems: Flow of Matter and Energy Matter: Properties and Reactions

4th Grade	
Unit Name	**Unit Description**
Input/Output: Computer Systems	In this exploration of how computers work, students are encouraged to make analogies between the parts of the human body and parts that make up a computer. Students investigate reaction time as a measure of nervous system function. After Mylo suffers a concussion, his friends become interested in how to diagnose concussions and create a reaction-time computer program to assess a baseline before a concussion occurs. Students apply what they have learned to build their own reaction-time measurement devices on tablets. This module has strong connections to the fourth grade Human Brain module.
Input/Output: Human Brain	Students discover how signals passing from cell to cell allow us to receive stimuli from the outside world, transmit this information to the brain for processing, and then send out a signal to generate a response. When Mylo experiences a concussion after falling off a skateboard while not wearing a helmet, he and his friends are motivated to raise awareness about concussions. Inspired by this design problem, students work as part of a team to design, plan, and create a video or podcast to educate children on identifying and preventing concussions.
Waves and Properties of Light	Students observe the amplitude and wavelength of waves in a simulation and describe their patterns. They learn that waves move energy from one place to another, which can cause objects to move. They learn that colors are determined by the wavelengths of light through an investigation using the primary colors of light. Then, students explore how light interacts with different materials that are transparent, translucent, and opaque. They use the design process to design a game that incorporates their knowledge and skills about light gained throughout the module.
Organisms: Structure and Function	Students learn the characteristics of living things and look for similarities among organisms. Students examine a wide range of organisms, exploring their unique internal and external structures to understand how these structures support the organism's survival and combine with other structures to function as part of a larger system. Students then apply the knowledge and skills they have gained as they work through the design process to research, design, and build a model prosthesis for an injured animal.

Earth: Past, Present, and Future	Students explore natural features on Earth. They learn about different landforms and bodies of water. Students take a deeper look at the origins of landforms as they learn about tectonic plates and plate boundaries. They examine how landforms have changed over time due to weathering and erosion. Students investigate how mechanical and chemical weathering impacts the Earth, and they identify examples of weathering in their local area. Students use the design process to create a documentary that explains how one of Earth's landforms has been shaped over time.
Earth: Human Impact and Natural Disasters	Students learn about the relationship between humans and the environment. Students begin the module by activating knowledge about natural resources. They learn how to reduce the impact humans have on the environment and use the design process to create an upcycled project. Then, students investigate natural disasters, and they design emergency preparedness kits to demonstrate their understanding of the challenges that natural disasters pose. Students follow the design process to generate a plan to reduce the human impact on Earth or to lessen the impact of natural disasters on humans.
Energy Exploration	Students engage in explorations of energy-related phenomena. They make observations, pose questions, and make connections as they investigate energy transfers. Throughout the module, students explore connections to careers and to the necessity of energy in real-life as they visit multiple business owners through the Main Street interactive experience. To deepen their understanding of energy, students design an investigation to test what happens when marbles collide on a track. Each business owner presents a problem that needs to be solved. Students select a problem and use the design process to apply scientific ideas to design, test, and refine a device that converts energy from one form to another.