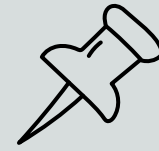
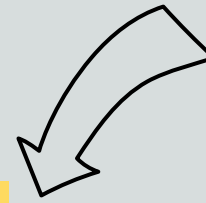
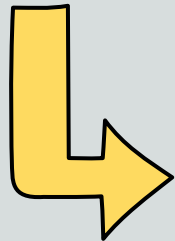


GRADE 4 PLTW



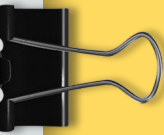
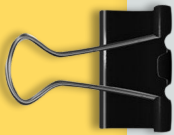
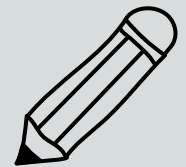
ENERGY EXPLORATIONS

WAVES & PROPERTIES OF LIGHT



ORGANISMS: STRUCTURE & FUNCTION

EARTH: PAST, PRESENT, FUTURE



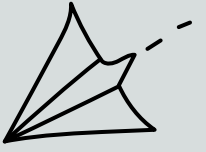


GRADE 4 PLTW

EARTH: PAST, PRESENT, 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.



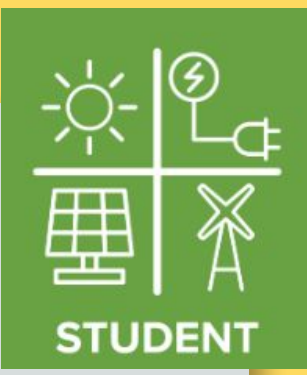


GRADE 4 PLTW

ORGANISMS: STRUCTURE AND FUNCTION

Students examine a wide range of organisms, exploring their unique internal and external structures to understand how they support each animal's survival, growth, behavior, and reproduction. Students' view of organism structures becomes more complex as they experience how individual structures combine into larger systems. They make decisions about the types of structures and systems a plant needs to survive. Then they work toward solving the problem raised in the introduction story: How can we create a prosthesis that will help an animal eat or move effectively again? Using the design process, students apply their knowledge to design, build, test, and refine a model prosthesis for an injured animal.



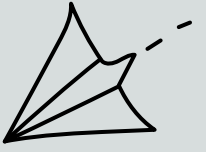


GRADE 4 PLTW

ENERGY EXPLORATIONS

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.





GRADE 4 PLTW

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.





GRADE 4 INNER ORBIT



Inner Orbit is an assessment platform that allows teachers to create computer based assessments using phenomena- based questions that directly align with specific NGSS standards. In grade 4, students will engage in a short *Inner Orbit* assessment after each PLTW module. The results will give teachers feedback and allow them to track growth in science. It will also give students experience with computer based testing.



How InnerOrbit Works



Select Questions
Choose from pools of rigorous NGSS aligned question clusters



Build Assessments
Copy, remix, and create your own science assessments



Assign to Classes
Students take do-nows, exit slips, and formative or summative assessments



Refocus Lessons
Give feedback, track growth, and use intuitive reports to identify gaps