

# Science, STEM & STEAM

**The Holy Apostles science curriculum** provides hands-on learning using state-of-the-art tools and programs designed to challenge and engage students. We have taken a blended approach to teaching science concepts, connecting learning from the scientific method and a project-based curriculum. Our program integrates classic science units, as well as **Project Lead the Way (PLTW), which is a nationally recognized Science, Technology, Engineering and Math (STEM) program.**

**The following PLTW units** compliment our science program and allow students to gain knowledge and acquire skills in problem solving, critical thinking, teamwork and innovation, as well as build lifelong interest STEM topics.

**4K students** will learn about Life Science by exploring characteristics of living and nonliving things, examining habitats, which will help them develop an understanding of what living things need in order to survive. They use the engineering design process to sketch, build, and test an animal's shelter, then reflect on their design.

**In Kindergarten,** students will explore structure and function. They will learn about the design process and how engineers influence their lives. They learn to ask questions and problem solve in groups. They explore other units including: *Exploring Design, Pushes and Pulls, the Structure of the Human Body, and Animals and Algorithms.*

**In First Grade,** students work in teams to investigate and observe the properties of the world around them with hands on activities and research. They are challenged to solve design problems and create structures for each PLTW unit. They learn through units which include: *Light and Sound, Light: Observing the Sun, Moon, and Stars, Animal Adaptions, and Animated Storytelling.*

**In Second Grade,** students focus on Materials Science and our Earth. They work on teams to investigate and classify different kinds of materials, learn more about properties of matter, solve more advanced design problems. They also dive into topics like seed dispersal, insulators and conductors, exploring maps and computer programing. Units include: *Properties of Matter, Form and Function, The Changing Earth, and Grids and Games.*

**In Third Grade,** our students explore stability and motion within two PLTW units. They continue to work in groups to solve more advanced engineering design challenges. Units include: *Science of Flight, Variation of traits, Programming Patterns, and Forces and Interactions .*

**In Fourth Grade,** students continue to use the engineering design process, while focusing on the properties of mechanisms, including potential, kinetic and the conversion and transfer of energy. Units include: *Input/Output: Computer Systems, Input/Output: Human Brain, Energy: Collisions and Energy: Conversions.*

**In Fifth Grade,** our students will explore Infection and dive into a designing a mobile robot. *Units include Infection: Detection, Infection: Modeling and Simulation and Robotics and Automation.*

