Science Curriculum

Science Overview

Our science curriculum is rooted in research and inquiry. We work to develop a scientific process that enables our students to thoughtfully pursue answers to their carefully crafted questions. Students observe, predict, measure, and record data. They collaborate with experts near and far and they share their learning with the broader community.

Early Childhood

Our garden is both a play space and a science classroom. Working alongside our garden educators, students learn to tend our garden; watering, harvesting, and enjoying the fruits of their labor. There is a wide variety of herbs, fruits and vegetables that children have the opportunity to care for and enjoy. In the winter months when the garden is put to bed, students plant seeds indoors, tending to them under grow lights, until the last frost has passed the garden is once again ready to be planted. The garden is also a rich environment for observation and experimentation-with both preschool and kindergarten classrooms often diving into the study of a plant or animal found in this rich ecosystem.

Primary Unit - Third Grade

First and Second graders are all about exploration and the scientific experiences in our primary classroom reflect this important component of a child's development. In the spring months, primary classrooms use the outdoors as their main scientific classroom, exploring birds and amphibians on a rotating basis. Through inquiry-based lessons in the habitats of these creatures, students make predictions, pose questions, collecte data, draw conclusions, and record their observations and understandings in their science notebooks.That type of detailed investigative work continues to build in third grade's study of seeds, water, and invertebrates - three scientific concepts that lend themselves beautifully to exploring the greenspaces and watershed surrounding TPS.

Junior Unit

Science in our 4th and 5th grade classrooms follow the two year rotation that closely relates to our thematic and cultural studies. In their studies of ancient civilizations, Junior Unit students are immersed in questions of science both here and now and long ago and far away. From orienteering and planetary science, experimenting with fast plants and their life cycles, to creating devices using the principles of simple machines, students experience the evolution and growth of scientific understanding, and how theories are challenged by time and new information.

Middle School

Science, engineering, and technology permeate every aspect of modern life and hold the key to many of humanity's most pressing current and future challenges. In order for our students to understand, participate, and eventually take a lead in public policy issues and environmental concerns, they must develop an expanding understanding of science and engineering content and practices. In 6th grade, through a year-long interdisciplinary study of the

continent of Africa, students compare and contrast landforms, becoming deeply knowledgeable about biomes and how the topography of a place impacts its inhabitants. In 7th grade, a study of migratory birds is directly connected to a study of human migration, and data collection becomes a key aspect of their learning experience. In 8th grade, students create. chemistry textbooks, a resource that their younger schoolmates can use in their study of water. Across all middle school experiences, a complementary combination of rich content and scientific practices empowers our students to think across disciplines, to make informed decisions, and to be critical consumers of scientific information related to their everyday lives.