Robert C. Parker School
Science Curriculum
K - 5

As children explore the world around them, they gain a deeper understanding and appreciation for the interconnections in nature and science. They begin to learn about conservation and activism. Our seventy-seven acres of meadows, woodlands, wetlands, and creeks are a natural workshop for science observation and discovery. Science studies are supported with field trips to museums and local nature sites, including in beginning in grade 4-5 an annual trip to Camp Chingachgook on Lake George. Cornell Cooperative Extension's Demonstration Gardens on our property provide an accessible resource. Students practice conservation through a recycling program coordinated by middle school students, and by collecting data from our solar panels. Students and teachers use our student-built greenhouse and raised-bed vegetable gardens.

In grades K – 5, students' scientific inquiry is closely connected with social studies essential questions and is integrated with language arts, math, art, and health. Students explore observable science through hands-on activities and move towards more abstract concepts as they mature. Use of scientific tools, development of skills, and experiences with research are built into the science program.

K-1 Class

Year 1
Big Questions: What do we need to live?
How does where we live affect how we live?

Science Explorations:
- Principles of Life (what life needs)- Living versus non-living
- Animal Homes and Habitats– Observing How our garden grows and who lives there? – compare and contrast to other habitats (Man-made: garden, grass; Natural: forest, stream)
- Participation in school wide study of Water – The stream
- Animal Study – Insects – The Ant
- Animal Study – Native birds – What birds coming to our garden in the winter?
- Animal Life Cycle – Amphibian- Frogs – How does a frog grow?
- Plant Life Cycle – observation and experimentation in our garden
- Seasons / Weather (all year)

Year 2
Big Questions: How are we different? How are we the same?

Science Explorations:
- The Five Senses
- Animal Life Cycle - Butterflies
- Cooking

- Foods (Seed to Table)
- Sound (drums)
- Light Energy – Color prisms
- Earth Study- Rocks (Sedimentary and Igneous) & minerals
- Weather/Seasons

Science in Health Class: Body Systems - Circulation, Skeletal, and Muscular

2-3 Class

Stream to River, A Clean Water Stewardship Project (longitudinal study with 2-3's and 6-7's)

Year 1

Big Questions: How does water become the wellspring of life?
How and why do people live near water?
How does the river affect people? How do people affect the river?

Science Explorations:

- School wide Water study- Mapping out the Hudson River
- Erosion – How are rivers made?
- Water Cycle- How does the water get from one place to the next?
- Animal and Habitat Study: Tides & Estuary – What and how do animals live at the borders of fresh and salt water?
- Ecology: What effects have people had on the Hudson River?
- Powering the River- How did people move on the river? – Experimentation with buoyancy and a study of wind and steam power, electricity
- Ganges River: How do other cultures use and perceive their rivers? A comparison study of Geography, Environment, Animals and Ecology

Year 2

Big Questions: What was life like on this planet before humans arrived? What life forms existed? How do we know?
How did people in China live long ago and today? What innovations came from China? Why? How is China important in the world?

Science Explorations:

- Biota changing over time
- Fossils
- Extinct creatures
- Native/Non-native species
- Inventions (Ancient China)
- Environmental Issues (Current China): Energy; Air Pollution; Water Pollution; Yellow River Dam
- Agriculture: Chinese Garden

- Astronomy

Science in Health class:
- Anatomy/ Physiology
- Body Systems
- Human Life Cycle
- Body Comparisons
- Exercise Science
- Energy Systems: Aerobic/Anaerobic

4-5 Class

Year 1
Big Question: How do native peoples adapt to their environment?

Science Explorations:
- Biomes Study: What makes one biome different from another?- Environment and Animals
- Biomes close to home: Deciduous and Coniferous Forest
- Multi class project: Tree identification to be published with 6/7 Parker Wildlife Guide
- Food webs: Prey/Predator
- Adaptations: Animals studies on how form and function interact to propel physical and behavioral adaptations.
- South and Central American Bioregions

Year 2
Big Questions: Where are our origins? Where did we come from?
How did we create change? What was its impact?

Science Explorations:
- Movement of the Earth - seasons
- Energy: Chemical, Electromagnetic - heat, light (Chemiluninescence)
- Animal/Plant Migration
- Energy: Mechanical - force and motion, simple machines
- Invent a Vehicle

Science in Health class:
- Anatomy/ Physiology
- Body Systems
- Human Life Cycle
- Body Comparisons
- Exercise Science
- Energy Systems: Aerobic/Anaerobic