

Sixth Grade Science

Teacher: Erik Anderson

Course Description: The sixth grade science curriculum is designed to introduce students to the scientific method, tools for scientific measurement, and scientific content knowledge. During this year we will look into elements of life, physical, and earth sciences. The year will be broken into 4 main units. Each unit will contain hands on learning opportunities.

Unit: Scientific Inquiry and Measurement

Essential Question: How do we measure the world around us?

- One, two, and three dimensional measurements
- Mass, Volume, Density, Buoyancy
- English vs. Metric System
- Temperature, States of Matter

Essential Question: How do scientists collect, analyze, and interpret data?

- Graphs, Tables
- Rusty Crayfish Monitoring, Invasive Species
- Solutions, Suspensions

Unit: Physical Science-Energy

Essential Question: What are the different forms that energy can take and how does it transfer from one form to another?

- Potential, Kinetic, Thermal, Chemical, Light, Sound
- Conversions, Friction, Energy degradation
- Design your own potential to kinetic experiment

Essential Question: How do humans produce, consume, and conserve electrical energy?

- Production methods in Vermont, The United States, and The World
- Watts, Volts, Amps, Kilowatt/hours
- Measuring home energy usage

Unit: Life Science-Life Cycles and Carbon Cycle

Essential Question: How does the life cycle of the Atlantic Salmon make it vulnerable to changes in its habitat?

- Stages of the salmon's life, anadromous fish species
- History of Atlantic Salmon in the Connecticut River
- Restoration efforts for the Connecticut River Watershed
- Raise Salmon eggs to be released in spring

Essential Question: How are the life cycles of honey bees and flowering plants related?

- Insects, complete and incomplete metamorphosis
- Parts of a flower, sexual reproduction in plants
- Strategies for germination, pollination, and seed dispersal

Essential Question: The sun's energy powers nearly all life on earth, how is that energy passed throughout all living organisms? Why are there more bunnies than bobcats?

- Chemical energy, glucose, photosynthesis
- Cellular respiration
- Producers and Consumers
- Food Webs and Available energy

Unit: Earth Science-Water Cycles and Rock Cycles

Essential Question: Why is clean drinking water such a precious commodity when there seems to be so much water on the face of the earth?

- Water Cycle
- Watersheds
- Erosion and Runoff

Essential Question: What different types of rock make up our bedrock and soil?

- Igneous, Metamorphic, Sedimentary, Rock Cycle
- Sand, Silt, Clay, Soil type, soil composition
- Soil Horizons and the hidden world underground