Course Overview
The fourth grade science course follows the Core Knowledge Sequence. The class will meet 3 times per week and emphasize hands-on learning and scientific experimentation. An outline of major course goals and approximate timing is outlined below.

1. Scientific Methods and Introduction to Matter (August –September)
   - Observation and Measurement
   - Experimental Methods
   - Graphing and Data Analysis
   - Matter and Energy Overview
   - Physical Properties of Matter
     - Mass
     - Volume
     - Density
   - Phases of Matter and Phase Change
   - Pressure and Temperature

2. Meteorology (Oct- Nov 3rd, End Q1)
   - Apply concepts of temperature, density, and pressure to understand major weather phenomena
   - Cloud Formation and Cloud Types
   - The Water Cycle
   - Structure of the Atmosphere
   - Air Masses, Fronts and Forecasting
   - Weather vs. Climate
   - Global Wind Patterns
   - Climate Change
   - Severe Weather (Hurricanes, Tornadoes, Blizzards, Droughts, Floods) and Impacts

3. Matter II/ Chemistry (November- December)
   - Structure of the Atom
   - Quantum and Nuclear Physics Overview
   - Mixtures and Compounds
   - Chemical Reactions and Bonding

4. Geology (January*- February 15, Feb Break)
   - *Q2 ends 1/24
   - Apply concepts from Matter II to understand formation of rocks and minerals
   - Rocks and Minerals
   - Plate Tectonics
   - Earth quakes and Volcanoes
   - Weathering and Erosion
5. Electricity (Feb 26 - March 30, End Q3)
   - Voltage, Current, Resistance and Ohm’s Law,
   - Insulators and Conductors
   - Types of Circuits, Circuit Diagrams, and Building Circuits
   - Electromagnets
   - Methods of Electricity Generation

6. Human Anatomy and Physiology (April - June)
   - Respiratory System (April)
     - Major Organs and Tissues
     - Gas Exchange and Cellular Respiration
     - Pathophysiology
     - Effects of Pranayama (yogic breathing)
     - Student Experimental Design

   - Cardiovascular System (May - June 8, End Q4)
     - Major Organs and Tissues
     - Blood pressure and pulse points
     - The Cardiac Cycle
     - Electrophysiology
     - Hearth Dissection
     - Pathophysiology
     - Effects of Asanas (Yogic Postures)
     - Student Experimental Design