SCIENCE

Purpose: The science program instills and reinforces a sense of curiosity and discovery in the investigation of the world. Students are encouraged to learn scientific principles, vocabulary, inquiry, experimentation, and reporting at the appropriate skill level for the age. Whole class/small group instruction, verbal and visual presentations, journal keeping, and making real world connections help this subject to come ñaliveò for the students.

Overview: across the grades levels, introduces, refines, and masters the following:

- Earth science
  - Geology
  - Astronomy
  - Water, weather and climate
  - Oceanography
- Life Science
  - Cells, structure, function, processes
  - Plants
  - Animals
  - Ecosystems and the diversity of living things
  - Health
  - Body Organs
- Physical Science
  - Matter
  - Motion and forces
  - Energy
  - Waves
  - Light
  - Electromagnetic Systems
- Scientific Method
- Lab Reports
- Science Fair

Sampling of topics covered:

Grades 1 – 3

- Comparing and contrasting living and non-living things.
- Understanding that there is interdependence among living organisms within a geographic area which calls for mutual care and nurturing within an environment, specifically the Arctic and rainforest.
- Recognizing the similarity in familiar animals and plants.
- Studying the life cycle of a plant
- Introduce the five senses and their functions

- Develop and understanding of proper nutrition and hygiene
- Understand the necessity for personal safety
- Looking at fossils that give evidence of prehistoric life
- Recycling
- Understanding that sun, water, and air are major factors in weather
- Recognizing fair weather and storm clouds.
- Understanding the movement of the major bodies in our solar system
- Understanding the concept of rotation; why the sun appears to rise and set

Grades 4 – 6

All of the above, as well as:

- Classifying geologic eras.
- Identifying the earthôs surface and interior make-up.
- Classifying rocks using characteristics of each type.
- Studying volcanoes, earthquakes, movements of continents, creation of mountains.
- Examining fossils, their type and formation.
- Recognizing constellations, visible planets
- Identifying the three states of water: solid, liquid, gas
- Distinguishing between weather and climate
- Understanding condensation, precipitation, evaporation, freezing, and melting
- Understanding how clouds form
- Comparing and contrasting the parts of plant cells and animal cells.
- Describing how cells are organized.
- Understanding that plants and animals go through predictable life cycles: growth, development, reproduction, and death.
- Classify living things by kingdom, phylum, class, and order, family, genus, and species.

Jr. High

All of the above, as well as:

- Executing the process of scientific inquiry and reporting, including clearly stating the purpose or question, planning the experiment, collecting the necessary materials, formulating a hypothesis, perform an experiment to test the hypothesis, executing the systematic and precise collection and reporting of date, and formulating conclusions based upon the data.
- Encouraging students to take responsibility for their own learning.
- Devising procedures for carrying out independent investigations within the framework of the Science Fair project.
- Developing awareness of environmental issues and the global impact of human actions.
- Learning the parts of and learning to use a compound microscope.
- Using the microscope to identify and differentiate the parts of the cell.
- Understanding the difference between self and cross-pollination.
- Identifying the types of leaves and their classifications.

- Comparing groups of organisms in terms of their diversity and analyse and compare the theories of Lamarck and Darwin.
- Learning the levels of classification for: kingdom to species; living things; vertebrates, and invertebrates.
- Analyze the effects of inertia in everyday experience.
- In Newton, estimate the force needed to lift an object; measure the size of a force.