

New Hampshire Frameworks from the New Hampshire Department of Education correlate to Sargent Center School Program lessons from several topics: Science, Social Studies, Mathematics, Theater, Physical Education and Career Development. Below we have taken each of our lessons and listed by topic those parts of each standard we introduce and/or cover by our lesson content.

ADVENTURE LESSONS AND HIGH ROPES AND CLIMBING TOWER

AFTERMEAL ACTIVITIES

ASTRONOMY

BEAVER AND/OR PROCUPINE STUDY

CAMPFIRE

CANOE ODYSSEY

CROSS-COUNTRY SKIING/SNOWSHOEING

FOREST ECOLOGY

GEOLOGY

LORAX

ORIENTEERING

NATURE OBSERVATION AND AWARENESS

NIGHTWALK

PIONEERING

PREDATOR-PREY

REFLECTIONS

RIVER STUDY

TOWN MEETING

WEB-OF-LIFE

WETLAND ECOLOGY/ LIFE UNDER THE ICE

WILDERNESS SKILLS

WILDLIFE ECOLOGY

WINTER ECOLOGY

ADVENTURE LESSONS AND HIGH ROPES AND CLIMBING TOWER:

Students take an active role in numerous group initiatives which provide opportunity to set goals and utilize varying problem solving techniques. Working with their group they will identify healthy ways of dealing with conflict as well as how individual behaviors affect others.

Consecutive lessons will focus on trust building, mastering group cooperation, and learning skills for a High Ropes or Climbing Tower experience. Students climb with a partner (or threesome on the Tower) on the route of their choice, working as a team. Under staff supervision, students are responsible for belaying (managing their peers' safety ropes) as well as setting personal goals.

Career Development

Standard 3:

- Establish expectations for achievement and use evaluation tools.
- Monitor their own learning process and revise activities accordingly.
- Considering strategies for improving academic skills.

Standard 4:

- Identify healthy ways of dealing with conflicts and stress.
- Demonstrate an awareness of how one is seen by others.
- Identify the impact of individual behaviors.

- Describe the individual concepts and interests that influence one's decisions.
- Identify how experience influences attitudes, behaviors and aptitudes.
- Demonstrate effective time management skills.
- Demonstrate the ability to take leadership roles when appropriate.

Standard 5:

- Demonstrate the ability to participate in forming a team and identifying a common goal.
- Work toward a common goal as a member of a team
- Identify skills needed and practice to resolve conflicts with other people.
- Demonstrate how to express feelings, reactions and ideas in an appropriate manner.
- Demonstrate skills in working cooperatively/collaboratively with others.
- Identify and demonstrate team skills that lead to the successful accomplishment of a common goal.

Mathematics

Standard 1a: "Students should have many experiences in posing and solving problems from their world, from data that are meaningful to them, and from mathematical investigations."

- Solve problems using a variety of strategies.
- Demonstrate that a problem may be solved in more than one way.
- Determine the reasonableness of solutions to real-world problems.
- Apply problem solving strategies to solve problems in the natural and social sciences and in pure mathematics.

Physical Education

Guideline 3:

- Apply fundamental motor skills in a variety of physical activities, such as low organized games, rhythmic activities, fitness activities, tumbling and gymnastics.
- Combine and refine fundamental motor skills to competently participate in a variety of physical activities.
- Demonstrate use of strategies and tactics within a variety of physical activities.

Guideline 5:

- Describe the benefits and challenges of working in a group.
- Articulate the various roles of group members.
- Reflect on personal role(s) within a group.
- Analyze the contributions of group members.

Guideline 6:

- Work productively and respectfully with others to achieve a group goal.
- Identify and follow safety rules for all activities.
- Demonstrate responsible behavior in physical activity settings.
- Display acceptance of others through verbal and non-verbal behaviors.
- Demonstrate a tolerance for individual differences.
- Resolve conflict in socially acceptable ways.
- Accept responsibility for being part of a group by contributing toward group success.
- Participate productively in both cooperative and competitive group activities.
- Demonstrate responsible behavior in physical activity settings.

Science

Standard 6a:

- Identify and describe the essential parts of any object or system.
- Describe the interrelationships among the parts of an object or system.

- Demonstrate and describe how parts of a system influence each other, including feedback.

AFTERMEAL ACTIVITIES:

After each meal students will participate in discussions and activities that will draw connections between healthy habits and environmentally conscious decisions. Students will have the opportunity to prepare and present reports on water and weather topics. As a whole students will monitor through charts and graphs their water use and wasted food (ORT). Each day there will be a Word-of-the-day, that will be discussed and students will have the opportunity to share examples seen throughout the day.

Science

Standard 1a:

- Read bar graphs, line graphs, circle graphs, and tables, construct explanations, including development of simple models for observations made.

Standard 3b:

- Identify and describe the basic requirements for sustaining life.
- Describe and give examples of various types of interactions that occur among organisms.

Standard 3c:

- Describe how organisms can acquire energy directly or indirectly from the energy of the sun.

Standard 4c:

- List some ways that the Earth's water supply can be conserved.
- Describe possible consequences of reducing or eliminating some of the Earth's natural resources.

Standard 6b:

- Identify and describe several ways in which things may change.
- Identify and describe several types of change.

ASTRONOMY:

Students explore the sky through activities focusing on stars, the moon, planets, the solar system, and the sun. Weather permitting, stargazing and telescope use are included.

Science

Standard 1a:

- Use appropriate tools and techniques to gather, organize and interpret data.
- Make hypotheses and design simple experiments to test hypotheses made.

Standard 2a:

- Use an assortment of measuring instruments, with a variety of scales.
- Use technology to explore events in nature.

Standard 2b:

- Explore nature with simple scientific tools.
- Explore nature with technology.

Standard 4a:

- Compare and contrast important Earth, Sun and Moon.
- Explain how the brightness of a star as seen from Earth is related to its size, color and distance from the Earth.
- Use a telescope to magnify the appearance of some distant objects in the sky.

- Identify the other planets in the solar system on a diagram or in the night sky, and describe their motions, as well as the motion of the planetary moons and comets.
- Explain phases of the Moon in terms of relative positions of the Earth, Moon and Sun.

Standard 6a:

- Relate structure and function of parts of any object in a system to the system as a whole.
- Describe the interrelationships among parts of an object or system.

Standard 6c:

- Define and describe various physical models and their uses.
- Recognize that a model is a representation of an object or process and is not identical to the object or process.

Social Studies

Standard 12:

- Discuss how changing Earth-Sun and Earth-Moon relationships influence seasons, length of day, weather and climate, the water cycle, and tides.

BEAVER AND/OR PROCUPINE STUDY:

These two lessons include discussion on facts and myths about the animals, differing impacts the two species have on the environment, visits to active habitats, human impact on the species and exploring for signs of each animal.

Science

Standard 1a:

- Work in small teams to investigate problems, but form own conclusions.

Standard 3a:

- Describe/identify random differences between individuals of the same species of plant or animal.
- Identify major body structure of some common organisms.
- Relate different kinds of animals and plants to their habitat by observing their physical characteristics.

Standard 3b:

- Describe and give examples of the various types of interactions that occur among organisms.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.
- Predict, with rationale, the effect of changing one or two factors in an ecosystem.

Standard 3d:

- Identify the major anatomical features of plants and animals, and the major function of each.

Standard 4c:

- Identify Earth resources used in their life.
- Explain how some of the Earth's resources are processed to make them useful.

Standard 6b:

- Identify and describe several ways in which things may change.
- Identify and describe several types of change.

Social Studies

Standard 14:

- Identify and discuss ways people depend upon, use and alter the physical landscape.

CAMPFIRE:

Each instructional group prepares a skit, song, or other presentation to share with the group, making for a memorable evening of entertainment. Instructors' antics cap the event. This popular program is often selected for the final evening.

Career Development

Standard 4:

- Identify healthy ways of dealing with conflicts and stress.
- Identify the impact of individual behaviors.
- Identify how experience influences attitudes, behaviors and aptitudes.
- Demonstrate effective time management skills.

Standard 5:

- Work toward a common goal as a member of a team
- Identify skills needed and practice to resolve conflicts with other people.
- Demonstrate how to express feelings, reactions and ideas in an appropriate manner.
- Demonstrate skills in working cooperatively/collaboratively with others.
- Identify and demonstrate team skills that lead to the successful accomplishment of a common goal.

Theatre

Standard 1:

- Collaborate to select interrelated characters, environments and situations for classroom dramatizations.

CANOE ODYSSEY:

Students embark on an adventure via barged canoes and face various challenges along the way. Before the lesson is over students learn about parts of a canoe, and proper use of all equipment including lifejackets. Instructors focus on beavers or porcupines, including information and facts about the animals during the lesson.

Career Development

Standard 4:

- Identify healthy ways of dealing with conflicts and stress.
- Identify the impact of individual behaviors.
- Describe the individual concepts and interests that influence one's decisions.
- Identify how experience influences attitudes, behaviors and aptitudes.
- Demonstrate effective time management skills.

Standard 5:

- Demonstrate the ability to participate in forming a team and identifying a common goal.
- Work toward a common goal as a member of a team
- Identify skills needed and practice to resolve conflicts with other people.
- Demonstrate how to express feelings, reactions and ideas in an appropriate manner.
- Demonstrate skills in working cooperatively/collaboratively with others.

- Identify and demonstrate team skills that lead to the successful accomplishment of a common goal.

Physical Education

Guideline 3:

- Demonstrate developmentally mature patterns in a wide variety of loco motor, non-loco motor and manipulative skills.
- Apply fundamental motor skills in a variety of physical activities, such as low organized games, rhythmic activities, fitness activities, tumbling and gymnastics.

Science

Standard 6a:

- Identify and describe the essential parts of any object or system.
- Describe the interrelationships among the parts of an object or system.
- Demonstrate and describe how parts of a system influence each other, including feedback.

Social Studies

Standard 11:

- Employ observation, maps, and other tools to identify and compare the physical features of particular places including soils, landforms, vegetation, wildlife and climate.

CROSS-COUNTRY SKIING/SNOWSHOEING:

Students learn and practice basic skiing or snow shoeing skills through active games and activities. The group will then put their new skills into practice while utilizing our trail system. (Equipment is provided.)

Physical Education

Guideline 1:

- Discuss reasons for participating in physical activity.
- Describe health benefits that result from regular and appropriate participation in physical activity.
- Identify long-term benefits that may result from regular participation in physical activity.

Guideline 3:

- Demonstrate developmentally mature patterns in a wide variety of loco motor, non-loco motor and manipulative skills.
- Apply fundamental motor skills in a variety of physical activities, such as low organized games, rhythmic activities, fitness activities, tumbling and gymnastics.
- Apply fundamental and complex motor skills in a variety of physical activities.

FOREST ECOLOGY:

Students learn the forest is a unique, complex ecosystem through exploration, journaling, tree identification, and focusing activities, among other activities. Lesson may include topics of senses, succession, habitat, and trees.

Science

Standard 1a:

- Pose questions for scientific investigations and make predictions about the outcomes.
- Work in small teams to investigate problems, but form own conclusions.
- Design and conduct a controlled scientific investigation.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.
- Describe immediate and long-term consequences of various alternative solutions for science and/or technology related issues, e.g. natural catastrophes.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 3a:

- Create examples of food chains and webs in several types of ecosystems.
- Relate different kinds of animals and plants to their habitat by observing their physical characteristics.

Standard 3b:

- Demonstrate a basic knowledge of the process of photosynthesis and its importance for all life forms.
- Describe and give examples of various types of interactions that occur among organisms.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.

Standard 3d:

- Observe and describe major characteristics of various life forms.
- Explain the difference between acquired and inherited characteristics or traits of an organism.

Standard 4a:

- Identify Earth resources used in their life.
- Explain how some of the Earth's resources are processed to make them useful.
- Identify/explain some effects human activities have on the atmosphere.

Standard 6d:

- Estimate the smallest and largest limits, or the range in size, of certain objects in quantitative terms.

Social Studies

Standard 11:

- Identify and compare landform, climate, and natural vegetation regions.

Standard 12:

- Define a local ecosystem and explain how its components are interrelated.
- Describe cycles of succession in a variety of ecosystems (for example, forest, lake, grassland).

Standard 14:

- Explain what a resource is, describe the characteristics of resources, and discuss the use of renewable and non-renewable resources in various parts of the world.

GEOLOGY:

Students learn about igneous, metamorphic, and sedimentary rock formations. Earth features are the focus of time-lines, and discussions and activities of resource use. Included is time to explore effects of wind, rain, pressure, and time on the Earth's surface.

Science

Standard 1a:

- Pose questions for scientific investigations and make predictions about the outcomes.
- Work in small teams to investigate problems, but form own conclusions.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 5a:

- Distinguish between the general properties of a substance and the properties which are important for a specific use.
- Measure and compare properties, such as color, size, shape, texture, and hardness of a variety of substances.

Standard 6a:

- Identify and describe the essential parts of an object or system.
- Describe the interrelationships among the parts of an object or system.

Standard 6b:

- Identify and describe several ways in which things may change.
- Identify and describe how change can be prevented and enhanced.

Standard 6c:

- Use graphs, geometric figures, number and time lines, and other devices to represent events and processes in the natural world.

Social Studies

Standard 11:

- Identify and compare landform, climate, and natural vegetation regions.

Standard 12:

- Describe the roles of water, wind, ice, temperature, and slope in shaping the physical features of Earth's major landforms and discuss how glaciers, wind, and water have shaped the physical landscape of New Hampshire.

- Discuss potential outcomes of the continued movement of Earth's crust or tectonic plates including continental drift, earthquakes, and volcanic activity.

Standard 14:

- Identify and discuss ways people depend upon, use, and alter the physical environment.

Standard 16:

- Construct time lines of significant historical events in their community, state and nation.
- Interpret data presented in time lines in order to determine when events took place.

LORAX:

Using the popular Dr. Seuss book, the lesson features a multimedia presentation involving audience participation, a slide show, and character enactment. Included is discussion about land use, conservation, and our role in environmental care.

Science

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.
- Illustrate, through example, that the knowledge produced through science and technology changes the way members of society think.

Social Studies

Standard 14:

- Explain what a resource is, describe the characteristics of resources, and discuss the use of renewable and non-renewable resources in various parts of the world.

NATURE OBSERVATION AND AWARENESS:

Through activities involving observation, invention, and expression, students take a closer look at the natural world and learn to experience it as aware observers. This lesson explores the elements of design such as texture, color, space, patterns, and rhythm, and employs all of the senses to investigate and read the landscape through activities such as blind walks and sound mapping.

Visual Arts

Standard 1c:

- Use various materials, techniques, and processes to communicate and express ideas, experiences, and stories

Standard 1c:

- Express and communicate ideas symbolically and realistically

Standard 2a:

- Recognize the visual elements, including color, shape, form, space, line, value, and texture

Standard 2b:

- Describe the principles of design including balance, unity, and rhythm

Standard 2d:

- Create works of art that use the elements of art and principles of design to communicate and express ideas

Standard 4d:

- Identify a variety of art objects, artists, and resources specific to New Hampshire

Standard 6a:

- Identify connections among the visual arts and other arts disciplines

Standard 6b:

- Understand that similarities exist between the visual arts and other disciplines

Standard 6c:

- Describe how the visual arts are used in the world around us and how they are part of our everyday life

Standard 7b:

- Describe occupations in which knowledge of design principles is important

Science

Standard 1a:

- Work in small teams to investigate problems but form own conclusions
- Formulate questions and use appropriate concepts to guide scientific investigations and solve real world problems

Standard 2b:

- Explore nature with simple scientific tools

Standard 3a:

- Classify a variety of organisms based on their characteristics, and use this scheme as a tool to organize information about the diversity of life forms

Standard 3d:

- Observe and describe major characteristics of various life forms, e.g. microorganisms, fungi, protists, plants, and animals

Standard 5a:

- Measure and compare properties, such as color, size, shape, texture, and hardness of a variety of substances

Standard 6a:

- Identify and describe the essential parts of any object or system

Mathematics

Standard 2a:

- Discuss, illustrate, and write about mathematical concepts and relationships.

Standard 2b:

- Recognize and use mathematics in other curriculum areas and in their daily lives.
- Identify examples of geometry in nature, art, and architecture.

Standard 4a:

- Explore, discuss, and describe properties of common two and three dimensional figures.
- Determine the presence or absence of lines of symmetry for given figures
- Draw line segments and lines.
- Investigate rotational and reflective symmetry (Point and line symmetry.)

Standard 4b:

- Explore other geometries and their applications (for example, non Euclidean geometries have significant applications in science).

Standard 5a:

- Collect, organize, describe and interpret data from familiar contexts.

Standard 6b:

- Explore sequences involving number and geometric patterns.
- Notice similarities and differences between patterns in numerical and geometric situations

NIGHTWALK:

Nighttime in the forest is a wonderful, mysterious adventure! Students explore the nocturnal environment using their senses, learning about adaptations that make some creatures (including humans) love the night, while others love the day.

Science

Standard 1a:

- Design and conduct a scientific investigation exploring the relationships between two variables.
- Make hypotheses and design simple experiments to test hypotheses made.

ORIENTEERING:

Once students have learned the parts of a compass and how to read a map, they have opportunities to practice using both. Lesson may include completing a simple orienteering course, competing in a school wide orienteering meet, creating an orienteering course or orienteering to designated activities.

Social Studies

- Standard 11:
- Identify and compare landform, climate, and natural vegetation regions.
- Use maps to demonstrate how place and regional boundaries change.

PIONEERING:

Why do the land, forest, and water look as they do at Sargent Center today? Students learn about our land use 100 years ago and discover how early settlers lived and prospered by exploring cellar holes, stone walls, and wood plots.

Social Studies

Standard 14:

- Identify and discuss ways people depend upon, use and alter the physical landscape.
- Identify features of the physical environment in their community and region that first attracted settlers and have supported subsequent development.

- Identify and discuss, using historical and contemporary examples, connections between the location of human systems and natural resources.

Standard 15:

- Identify, using maps, illustrations, photographs and documents from different time periods, how land use in their community has changed and discuss reasons for these changes.
- Describe changes in the ways people have earned their living in New Hampshire from the pre-colonial time to the present and identify and discuss corresponding changes that have occurred in physical and human systems.
- Discuss the relationships among population growth, technology and resource use.

Standard 16:

- Interpret data presented in time lines in order to determine when events took place.
- Examine historical data related to ideas, events, and people from a given time-frame in order to reconstruct a chronology and identify examples of cause and effect.
- Understand the significance of the past to themselves and to society.

PREDATOR-PREY:

This active lesson gives students first-hand experience in being a predator species seeking food and a prey species seeking shelter from predators. Although the focus is on survival, the lesson includes teamwork and fun.

Social Studies

Standard 14:

- Identify and discuss the relationship between habitat and the increase, decrease or stability of populations of species of plants and animals.
- Explain what a resource is, describe the characteristics of resources, and discuss the use of renewable and non-renewable resources in various parts of the world.

REFLECTIONS:

Working with their small groups, students will develop new understanding of the individual likes, dislikes, skills and feelings of their teammates. During this time students may also look back on the days activities and determine successes, failures and how to move forward successfully. Also, time may be allotted for journal writing.

Career Development

Standard 4:

- Identify and appreciate individual characteristics and differences.
- Identify how experience influence attitudes, behaviors and aptitudes.

RIVER STUDY:

This **early fall and/or late spring lesson** has students exploring river ecology including water quality as measured by pH, temperature, and dissolved oxygen. They also explore

changes in depth in comparison to speed of water and study animals that use the river as part of their habitat.

Science

Standard 1a:

- Pose questions for scientific investigations and make predictions about the outcomes.
- Design and conduct a scientific investigation to gather, organize, and interpret data.
- Work in small teams to investigate problems, but form own conclusions.
- Design and conduct a controlled scientific investigation.

Standard 2a:

- Use an assortment of measuring instruments, with a variety of scales, such as rulers, thermometers, graduated cylinders, balances, and timers.
- Describe and practice appropriate techniques for using simple measuring devices.
- Measure with both analog and digital electronic devices.

Standard 2b:

- Explore nature with simple scientific tools.
- Explore nature with technology.
- Gather information that can only be obtained by using a technological tool.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.
- Describe immediate and long term consequences of various alternative solutions for science and/or technology related issues.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 3a:

- Classify a variety of organisms based on their characteristics, and use this scheme as a tool to organize information about the diversity of the life forms.
- Create examples of food chains and webs in several types of ecosystems.
- Identify and describe similarities and differences among organisms of different, but closely related taxa (groups).

Standard 3b:

- Conduct an investigation which illustrates how the environment affects the viability of plants or animals within that environment.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.

Standard 3d:

- Observe and describe major characteristics of various life forms.

Standard 4c:

- Identify Earth resources used in their life.
- Explain how some of the Earth's resources are processed to make them useful.
- List some ways that the Earth's water supply can be conserved.

- Describe possible consequences of reducing or eliminating some of the Earth's natural resources.

Standard 6a:

- Relate structure and function of parts of any object in a system to the system as a whole.
- Describe the interrelationships among the parts of an object or system.
- Demonstrate and describe how parts of a system influence each other, including feedback.

Standard 6d:

- Measure properties of objects, to a reasonable degree of accuracy, using standard scientific instruments such as a ruler, balance, clock, and thermometer.

Social Studies

Standard 11:

- Employ observation, maps, and other tools to identify and compare physical features of particular places including, soils, landforms, vegetation, wildlife, and climate.
- Identify and compare landform, climate, and natural vegetation regions.

Standard 12:

- Define local ecosystem and explain how its components are interrelated.
- Describe cycles of succession in a variety of ecosystems.

Standard 14:

- Explain what a resource is, describe the characteristics of resources, and discuss the use of renewable and non-renewable resources in various parts of the world.

TOWN MEETING:

Each group assumes the identity of a “special interest” group who either wants to obtain Sargent Center or land along the river. Groups create and present a usage plan in a Town Meeting format. Students gain understanding and appreciation of the complex issues of land use and development.

Social Studies

Standard 4:

- Discuss why it is important to participate in community and government affairs.
- Describe and analyze the ways Americans can effectively participate in civic and political life at the school, community, state, and national levels and discuss how such participation can lead to the attainment of both individual and public goals.

WEB-OF-LIFE:

Students experience interdependent balance of plant, animal, mineral and physical characteristics present (or not) in an environment. This may include predator-prey, symbiotic, and producer-consumer-decomposer relationships. Students will explore systems and cycles including the water cycle and the food chain.

Science

Standard 1a:

- Solve problems using a variety of strategies.
- Work in small teams to investigate problems, but form own conclusions.
- Make hypotheses and design simple experiments to test hypotheses made.

Standard 3a:

- Classify a variety of organisms based on their characteristics, and use this scheme as a tool to organize information about the diversity of life forms.
- Create examples of food chains and webs in several types of ecosystems, e.g. deciduous forest, fresh water, desert, etc.
- Identify and describe similarities and differences among organisms of different, but closely related taxa (groups), e.g. conifers, rodents, big cats, etc.
- Develop appropriate food webs for the major biomes of the earth and accurately describe the major biogeochemical cycles which control the interactions between the biotic and physical worlds.

Standard 3b:

- Identify and describe the basic requirements for sustaining life.
- Describe and give examples of the various types of interactions that occur among organisms.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.
- Predict, with rationale, the effects of changing one or two factors in an ecosystem.
- Make predictions about changes in the size or growth rate of a population using mathematical models.

Standard 3c:

- Explore through models, experiments, and observations how matter and energy interact in any ecosystem.
- Describe how organisms can acquire energy directly or indirectly from the energy of the sun.

Standard 4c:

- Identify/explain some effects human activities have on the atmosphere.
- Describe possible consequences of reducing or eliminating some of the Earth's natural resources.

Standard 6a:

- Identify and describe the essential parts of an object or system.
- Describe the interrelationships among the parts of an object or system.
- Demonstrate and describe how parts of a system influence each other, including feedback.
- Show how one system can be part of another system, and how systems influence each other.

Standard 6b:

- Identify and describe several ways in which things may change.
- Identify and describe several types of change.

Standard 6c:

- Use graphs, geometric figures, number and time lines, and other devices to represent events and processes in the natural world.

Social Studies

Standard 12:

- Define a local ecosystem and explain how its components are interrelated.

Standard 14:

- Identify and discuss ways people depend upon, use, and alter the physical environment.
- Identify and discuss the relationship between habitat and the increase, decrease, or stability of populations of species of plants and animals.

WETLAND ECOLOGY/ LIFE UNDER THE ICE:

Studying Sargent Center's different wetland sites, students gain understanding of the types, purposes, and unique characteristics of wetlands. Lesson includes study of wetland animals, plants and water quality (which can include: pH, turbidity, temperature, and dissolved oxygen). In the **fall and spring**, this lesson may be done by canoe. In winter Wetland Ecology becomes Life Under the Ice, the lesson focuses on collecting samples and finding out what happens to wetland animals and plants in winter. Also includes discussion about importance of wetlands to humans and animals.

Science

Standard 1a:

- Pose questions for scientific investigations and make predictions about the outcomes.
- Design and conduct a scientific investigation to gather, organize, and interpret data.
- Work in small teams to investigate problems, but form own conclusions.
- Design and conduct a controlled scientific investigation.

Standard 2a:

- Use an assortment of measuring instruments, with a variety of scales, such as rulers, thermometers, graduated cylinders, balances, and timers.
- Describe and practice appropriate techniques for using simple measuring devices.
- Measure with both analog and digital electronic devices.

Standard 2b:

- Explore nature with simple scientific tools.
- Explore nature with technology.
- Gather information that can only be obtained by using a technological tool.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.
- Describe immediate and long term consequences of various alternative solutions for science and/or technology related issues.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 3a:

- Classify a variety of organisms based on their characteristics, and use this scheme as a tool to organize information about the diversity of the life forms.
- Create examples of food chains and webs in several types of ecosystems.
- Identify and describe similarities and differences among organisms of different, but closely related taxa (groups).

Standard 3b:

- Conduct an investigation which illustrates how the environment affects the viability of plants or animals within that environment.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.

Standard 3d:

- Observe and describe major characteristics of various life forms.

Standard 4c:

- Identify Earth resources used in their life.
- Explain how some of the Earth's resources are processed to make them useful.
- List some ways that the Earth's water supply can be conserved.
- Describe possible consequences of reducing or eliminating some of the Earth's natural resources.

Standard 6a:

- Relate structure and function of parts of any object in a system to the system as a whole.
- Describe the interrelationships among the parts of an object or system.
- Demonstrate and describe how parts of a system influence each other, including feedback.

Standard 6d:

- Measure properties of objects, to a reasonable degree of accuracy, using standard scientific instruments such as a ruler, balance, clock, and thermometer.

Social Studies

Standard 11:

- Employ observation, maps, and other tools to identify and compare physical features of particular places including, soils, landforms, vegetation, wildlife, and climate.
- Identify and compare landform, climate, and natural vegetation regions.

Standard 12:

- Define local ecosystem and explain how its components are interrelated.
- Describe cycles of succession in a variety of ecosystems.

Standard 14:

- Identify and discuss ways people depend upon, use and alter the physical landscape.
- Explain what a resource is, describe the characteristics of resources, and discuss the use of renewable and non-renewable resources in various parts of the world.

WILDERNESS SKILLS:

Students learn basic human survival in the wilderness by learning proactive planning strategies and various trail skills including fire building and shelter creation.

WILDLIFE ECOLOGY:

Students learn about common wildlife species by focusing on adaptations, predator/prey relations, habitats, or food chains.

Science

Standard 1a:

- Pose questions for scientific investigations and make predictions about the outcomes.
- Work in small teams to investigate problems, but form own conclusions.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 3a:

- Classify a variety of organisms based on their characteristics, and use this scheme as a tool to organize information about the diversity of life forms.
- Create examples of food chains and webs in several types of ecosystems.

Standard 3b:

- Identify and describe the basic requirements for sustaining life.
- Describe and give examples of the various types of interactions that occur among organisms.
- Make predictions about changes in the size of growth rate of a population using mathematical models.

Standard 3d:

- Observe and describe major characteristics of various life forms.

Standard 6c:

- Use graphs, geometric figures, number and time lines, and other devices to represent events and processes in the natural world.

Social Studies

Standard 14:

- Identify and discuss the relationship between habitat and the increase, decrease, or stability of populations of species of plants and animals.

WINTER ECOLOGY:

The winter is an exciting time to be outdoors. Students gain an understanding of why winter happens in New England. They talk in detail about plants and animals and how they adapt to winter and explore the properties of snow and ice through several simple experiments.

Science

Standard 1a:

- Solve problems using a variety of strategies.
- Pose questions for scientific investigations and make predictions about the outcomes.
- Design and conduct a scientific investigation exploring the relationship between two variables.
- Work in small teams to investigate problems, but form own conclusions.
- Design and conduct a controlled scientific investigation.

Standard 2a:

- Use an assortment of measuring instruments, with a variety of scales, such as rulers, thermometers, graduated cylinders, balances, and timers.

Standard 2e:

- Identify and gather information needed to make a decision on a science and/or technology related issue.

Standard 2f:

- Demonstrate that knowledge makes it possible to make informed decisions.

Standard 3a:

- Create examples of food chains and webs in several types of ecosystems.

Standard 3b:

- Describe and give examples of the various types of interactions that occur among organisms.
- Identify and describe examples of New Hampshire animals and plants that live together in one ecosystem.

Standard 3c:

- Describe how organisms can acquire energy directly or indirectly from the energy of the sun.

Standard 4a:

- Explain how the Earth's relationship to the Sun causes night, day and the seasons.

Standard 5a:

- Measure and compare properties, such as color, size, shape, texture, and hardness of a variety of substances.

Standard 6a:

- Identify and describe the essential parts of any object or system.
- Describe the interrelationships among the parts of an object or system.

Social Studies

Standard 12:

- Describe the roles of water, wind, ice, temperature, and slope in shaping the physical features of Earth's major landforms and discuss how glaciers, wind, and water have shaped the physical landscape of New Hampshire.

Standard 14:

- Identify and discuss the relationship between habitat and the increase, decrease, or stability of population of species of plants and animals.