The Great Outdoors Educational Program

Overview

This program has been designed to encompass all grades of science with ties into the social studies curriculum. The main focus of the program is on a hike which can highlight topics such as seasons and cycles, habitats and sustainability, interactions and ecosystems or even how First Nations or pioneers used the land around Fairy Lake. The hike goes around Fairy Lake behind the Museum and allows students to learn new things and entices conversation and discussion.

Program Overview

Introduction – 10 minutes

Activity #1 – Hike – 1 hour (give or take some time depending on weather, age of group etc.)

Students will follow the instructor around Fairy Lake (behind the Museum) learning about the environment and what it has to offer. It is during this time that the program will be altered based on the grade attending.

Activity #2 – Craft, Activity or Stewardship – 30-40 minutes

Depending on the grade, a craft can be incorporated into the program (bird feeders for younger grades, biosphere in a bag for older grades). The craft will include details from the curriculum information above. The activity and stewardship can be done in times when the weather/season is appropriate; this can involve a game demonstrating food chain levels within an ecosystem, making Aboriginal tea, creating bird homes for threatened species, or pulling invasive plants.

Conclusions/Discussions – 10 minutes

Curriculum Expectations

Grade One – Science & Technology

Understanding Life Systems

- "Identify personal action that they themselves can take to help maintain a healthy environment"
- "Describe changes or problems that could result from the loss of some kinds of living things that are part of everyday life"
- "Investigate and compare the basic needs of humans and other living things, including the need for air, water, food, warmth, and space, using a variety of methods and resources"
- "Investigate and compare the physical characteristics of a variety of plants and animals, including humans"
- "Investigate the physical characteristics of plants and explain how they help the plant meet its basic needs using a variety of methods and resources"
- "Identify *environment* as the area in which something or someone exists or lives"
- "Describe the characteristics of a healthy environment, including clean air and water and nutritious food, and explain why it is important for all living things to have a healthy environment"
- "Identify what living things provide for other living things"
- "Describe how showing care and respect for all living things helps to maintain a healthy environment"

Understanding Earth and Space Systems

- "Assess ways in which daily and seasonal changes have an impact on society and the environment"
- "Identify the sun as Earth's principal source of heat and light"
- "Define a cycle as a circular sequence of events"
- "Describe and compare the four seasons"
- "Describe changes in the appearance or behaviour of living things that are adaptations to seasonal changes"

Grade Two – Science & Technology

Understanding Life Systems

- "Identify positive and negative impacts that animals have on humans (society) and the environment"
- "Identify positive and negative impacts that different kinds of human activity have on animals and where they live"
- "Observe and compare the physical characteristics and the behavioural characteristics of a variety of animals, including insects, using student-generated questions and a variety of methods and resources"
- "Investigate the life cycle of a variety of animals using a variety of methods and resources"
- "investigate the ways in which a variety of animals adapt to their environment and/or to changes in their environment, using various methods"

- "Identify and describe major physical characteristics of different types of animals"
- "Identify ways in which animals are helpful to, and ways in which they meet the needs of, living things, including humans, to explain why humans should protect animals and the places where they live"

Understanding Earth and Space Systems

- "Assess the impact of human activities on air and water in the environment, taking different points of view into consideration"
- "Assess personal and family uses of water as responsible/efficient or wasteful, and create a plan to reduce the amount of water used, where possible"
- "Describe ways in which living things, including humans, depend on air and water"
- "State reasons why clean water is an increasingly scarce resource in many parts of the world"

Grade Three – Science & Technology

Understanding Life Systems

- "Assess ways in which plants are important to humans and other living things, taking different points of view into consideration and suggest ways in which humans can protect plants"
- "Assess the impact of different human activities on plants, and list personal actions they can engage in to minimize harmful effects and enhance good effects"
- "Investigate ways in which a variety of plants adapt and/or react to their environment, including changes in their environment, using a variety of methods"
- "Describe the basic needs of plants, including air, water, light, warmth, and space"
- "Describe the changes that different plants undergo in their life cycles"
- "Describe ways in which humans from various cultures, including Aboriginal people, use plants for food, shelter, medicine, and clothing"
- "Describe ways in which plants and animals depend on each other"
- "Identify examples of environmental conditions that may threaten plant and animal survival"

Understanding Earth and Space Systems

- "Assess the impact of soils on society and the environment, and suggest ways in which humans can enhance positive effects and/or lessen or prevent harmful effects"
- "Assess the impact of human action on soils, and suggest ways in which humans can affect soils positively and/or lessen or prevent harmful effects on soils"
- "Identify additives that might be in soil but that cannot be seen"

Grade Four – Science & Technology

Understanding Life Systems

- "Analyse the positive and negative impacts of human interactions with natural habitats and communities and evaluate ways of minimizing the negative impacts"
- "Identify reasons for the depletion or extinction of a plant or animal species, evaluate the impacts on the rest of the natural community, and propose possible actions for preventing such depletions or extinctions from happening"

- “Demonstrate an understanding of habitats as areas that provide plants and animals with the necessities”
- “Demonstrate an understanding of food chains as systems in which energy from the sun is transferred to producers (plants) and then to consumers (animals)”
- “Identify factors that affect the ability of plants and animals to survive in a specific habitat”
- “Demonstrate an understanding of a community as a group of interacting species sharing a common habitat”
- “Identify animals that are carnivores, herbivores, or omnivores”
- “Explain why changes in the environment have a greater impact on specialized species than on generalized species”

Grade Five – Science & Technology

Understanding Earth and Space Systems

- “Analyse the long-term impacts on society and the environment of human uses of energy and natural resources, and suggest ways to reduce these impacts”
- “Evaluate the effects of various technologies on energy consumption”
- “Identify renewable and non-renewable resources”

Grade Five – Social Studies

- “Analyse aspects of early contact between First Nations and Europeans in New France and determine the ways in which different partners benefitted”
- “Describe significant aspects of the interactions between First Nations and European explorers and settlers during this period”
- “Create a plan of action to address an environmental issue of local, provincial/territorial, and/or national significance”
- “Describe some different ways in which citizens can take action to address social and environmental issues”

Grade Six – Science & Technology

Understanding Life Systems

- “Analyse a local issue related to biodiversity, taking different points of view into consideration”
- “Assess the benefits that human societies derive from biodiversity and the problems that occur when biodiversity is diminished”
- “Identify and describe the distinguishing characteristics of different groups of plants and animals”
- “Demonstrate an understanding of biodiversity as the variety of life on earth, including variety within each species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them”
- “Describe ways in which biodiversity within species is important for maintaining resilience of those species”
- “Describe ways in which biodiversity within and among communities is important for maintaining the resilience of these communities”

- "Describe interrelationships within species"
- "Explain how invasive species reduce biodiversity in local environments"

Grade Six – Social Studies

- "Explain how various features that characterize a community can contribute to the identity and image of a country"
- "Explain why some environmental issues are of international importance and require the participation of other regions of the world, along with that of Canada, if they are to be effectively addressed"

Grade Seven – Science & Technology

Understanding Life Systems

- "Assess the impact of selected technologies on the environment"
- "Analyse the costs and benefits of selected strategies for protecting the environment"
- "Use appropriate science and technology vocabulary, including *sustainability, biotic, ecosystem, community, population,* and *producer*, in oral and written communication"
- "Demonstrate an understanding of an ecosystem as a system of interactions between living organisms and their environment"
- "Identify biotic and abiotic elements in an ecosystem, and describe the interactions between them"
- "Describe the roles and interactions of producers, consumers, and decomposers within an ecosystem"
- "Describe how matter is cycled within the environment and explain how it promotes sustainability"
- "Explain why an ecosystem is limited in the number of living things that it can support"
- "Describe ways in which human activities and technologies alter balances and interactions in the environment"
- "Describe Aboriginal perspectives on sustainability and describe ways in which they can be used in habitat and wildlife management"

Understanding Earth and Space Systems

- "Assess the social and environmental benefits of technologies that reduce heat loss or transfer"
- "Assess the environmental and economic impacts of using conventional and alternative forms of energy"
- "Identify common sources of greenhouse gases and describe ways of reducing emissions of these gases"

Grade Eight – Science & Technology

Understanding Earth and Space Systems

- "Assess the impact on local and global water systems of a scientific discovery or technological innovation"

- “Use appropriate science and technology vocabulary, including *water table, aquifer, polar ice-cap,* and *salinity,* in oral and written communication”
- “Identify the various states of water on the earth’s surface, their distribution, relative amounts, and circulation, and the conditions under which they exist”
- “Demonstrate an understanding of the watershed as a fundamental geographic unit, and explain how it relates to water management and planning”
- “Explain how human and natural factors cause changes in the water table”
- “Identify factors that affect the size of glaciers and polar ice-caps, and describe the effects of these changes on local and global water systems”
- “Explain changes in atmospheric conditions caused by the presence of bodies of water”