GRCA Nature Centres – List of School Programs

Locations:
AMNC – Apps' Mill Nature Centre (Brantford) | **GLNC** – Guelph Lake Nature Centre (Guelph) | **LCNC** – Laurel Creek Nature Centre (Waterloo) | **SMNC** – Shade's Mills Nature Centre (Cambridge) | **TNC** – Taquanyah Nature Centre (Cayuga)

Programs have been developed and are best delivered in natural areas, such as those around our nature centres. The majority of programs can be adapted for school yards and school neighbourhoods. Where needed, programs can be delivered virtually in real-time or asynchronously.

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
K	**Make Sense of Nature**	LCNC SMNC AMNC GLNC	Half day	During your visit, students will explore fields and forests and will have hands-on learning opportunities that encourage curiosity and nature connection. Every season brings new opportunities for learning. We might explore how animals use their senses, or we could follow clues and trails that animals leave behind.	Science and Technology (Kindergarten)	September - June
1 - 3	**Active Living: Snowshoeing**	LCNC AMNC	Half day	A snowshoe hike to enjoy a little winter vitamin D. Investigate how a gentle hike changes your body's system – pulse, temperature and breathing rate. The length of the snowshoe hike will depend on grade level. Program dependent on snow depth. If snow conditions persist with a cover of 10 cm or more, we will be able to snowshoe. If not, we will provide your group with an exhilarating and educational winter activity regardless of the snowy conditions.	Phys-Ed (Grades 1-3 Active Living)	January - March
4 - 12	**Active Living: Snowshoeing**	LCNC SMNC AMNC GLNC	Half day	A snowshoe hike to enjoy a little winter vitamin D. Investigate how a gentle hike changes your body's system – pulse, temperature and breathing rate. The length of the snowshoe hike will depend on grade level. Program dependent on snow depth. If snow conditions persist with a cover of 10 cm or more, we will be able to snowshoe. If not, we will provide your group with an exhilarating and educational winter activity regardless of the snowy conditions.	Phys-Ed (Grades 4 - 12 Active Living)	January - March

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1	**Our Living World**	LCNC SMNC AMNC GLNC TNC	Half day or Full day	Camouflage like a weasel, migrate like red- winged blackbirds, store food like squirrels and hibernate like groundhogs. We will go on an interactive hike to discover the different types of animals and their needs and roles in keeping our ecosystem healthy.	Understanding Earth and Space Systems (Grade 1 - Daily and Seasonal Changes) Understanding Life Systems (Grade 1-Needs and Characteristics of Living Things.	September - June
2	**Growth and Changes in Animals**	LCNC SMNC AMNC GLNC TNC	Half day or Full day	An animal's environment has an impact on its development and survival. Humans need to protect animals and the places where they live. Students will take a closer look at a habitat and the animals that can live there. Choose from *Winter Wildlife, Water Creatures, Incredible Insects, Birds of a Feather and Explore the Forest*. (weather dependent)	Understanding Life Systems (Grade 2 - Growth and Changes in Animals)	September - June
2	**Air and Water in the Environment**	LCNC SMNC AMNC	Half day or Full day	Air and water form a major part of the environment and are essential materials for life. We will explore the water cycle with games and measurements.	Understanding Earth and Space Systems (Grade 2 - Air and Water in the Environment)	September - June
2 & 3	**People and Environment: Mapping**	AMNC TNC	Half day	Are your students lost? Exploring in teams, students will try to find their way around the wilderness using a map. We will tour a map to discover how real life features are represented on a map, how hills are represented, how distance is measured, which way is north, and what all the symbols mean.	People and Environments (Grade 2 - Global Communities) Phys Ed (Grade 3 Active Living)	September - June
3	**Soils in the Environment**	LCNC SMNC AMNC GLNC	Half day	Soil is not dirt, but an essential source of life and nutrients for many organisms, including humans. From the tiniest soil particles to the giants of the plant world, students will learn that soil provides the foundation for the forests. Best combined with Growth and Changes in Plants to create a full day.	Understanding Earth and Space Systems (Grade 3 - Soils in the Environment)	September - November April - June

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
3	**Growth and Changes in Plants: Trees of the Forest**	LCNC SMNC AMNC GLNC TNC	Half day	Are you aware that one tree has the cooling effect of ten air conditioners? In this program, budding foresters will identify common coniferous and deciduous trees and learn about these giants of the plant world through activities, games and up-close encounters. Best combined with Soils in the Environment to create a full day.	Understanding Life Systems (Grade 3 - Growth and Changes in Plants	September - June
4	**Habitats and Communities: Home Sweet Habitat**	LCNC SMNC AMNC	Half day	Plants and animals are interdependent and are adapted to meet their needs from the resources available in their particular habitat. Can amphibians survive in any habitat? Who can live in a forest under a log? These are some of the questions student biologists will answer when they investigate and compare different habitats.	Understanding Life Systems (Grade 4 - Habitats and Communities)	September - November April - June
4	**Habitats and Communities: Species at Risk Game**	LCNC SMNC AMNC GLNC TNC	Half day	How many endangered species can you name that live in Ontario? During this role-playing game, explore how humans have a major impact on endangered species and their habitats.	Understanding Life Systems (Grade 4 - Habitats and Communities)	September - June
4	**Habitats and Communities: Birds of the Watershed**	LCNC SMNC AMNC GLNC TNC	Half day	Feed a feathered friend. Explore ways to identify common and not-so-common birds living in our area. Students will use binoculars when we hike the trail to find a diversity of birds in different habitats.	Understanding Life Systems (Grade 4 - Habitats and Communities)	November - April
4	**Habitat and Communities: Water Ecology**	LCNC SMNC AMNC GLNC TNC	Half day	Using special aquatic dip nets, the students will catch creatures that live in a local stream or pond. After identifying the invertebrates using field guides and identification keys, the students will determine if the water is a healthy ecosystem. Students may touch a dragonfly nymph, capture a crayfish and discover damselflies. Rubber boots or water shoes are required.	Understanding Life Systems (Grade 4 - Habitats and Communities)	September - early November April - June

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
4 & 7	**Active Living: Cartography: A Map Game**	LCNC SMNC AMNC TNC	Half day	Reading a map in a classroom is one thing – applying map-reading skills outdoors is the real challenge. Exploring in teams students will navigate their way around the wilderness using a map. We will tour a map to discover how natural and human features are represented on maps, how hills are depicted, how distance is measured, which way is north, and what all the symbols mean.	Phys-Ed (Grades 4&7 Active Living)	September - June
4	**Rocks and Minerals**	LCNC SMNC AMNC TNC	Half day	Search for sedimentary, igneous, and metamorphic rocks as we explore the geology of southern Ontario. Find out how rocks are formed. Investigate the characteristics that make rocks and minerals different. Students may complete a Scavenger Hunt for Rock Hounds or make a trace fossil of natural materials to take back to school.	Understanding Earth and Space Systems (Grade 4 - Rocks and Minerals and Geological processes)	September - November April - June
5	**Conservation of Energy and Resources: Survival-Shelter Building**	LCNC SMNC AMNC GLNC TNC	Half day	During this fun-filled, active program, students will build shelters with natural materials and material provided to keep a Teddy Bear warm, dry and comfortable. Their Teddy Bear's food and water mst aslo be kept warm and dry.	Understanding Life Systems (Grade 5 - Human Organ Systems) Understanding Matter and Energy (Grade 5 - Properties and Changes in Matter)	September - June
6	**Flight: Birds**	LCNC SMNC	Half day	How do air resistance, surface area and Bernoulli's Principle explain a brid's ability to fly? Students will learn and investigae characteristics and adaptations that enable birds to fly. Students will be able to use binoculars when we hike in different habitats to find a diversity of birds in flight.	Structures and Mechanisms (Grade 6 - Flight)	September - June
6 - 12	**Active Living: GPS Navigation**	LCNC SMNC AMNC GLNC TNC	Half day	Do you know people who have a GPS in their car, but are always lost? We unravel the wonders of this simple technology during this program. Students will learn how the compass and map relate to the GPS. After exploring how the GPS works, students will participate in a GPS scavenger hunt or course.	Phys-Ed (Active Living)	September - June

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
6	**Biodiversity**	LCNC AMNC GLNC TNC	Half day or Full day	Biodiversity is best learned outdoors where students can observe, examine and experience the diversity of life around them. Using nets students will collect invertebrates either from an aquatic or terrestrial ecosystem (or both for a full day). Students will examine and observe their finds to divide and classify them.	Understanding Life Systems (Grade 6 – Biodiversity)	September - October April - June
6	**Biodiversity: Wildlife Survey**	LCNC SMNC AMNC GLNC TNC	Half day	Every animal, including humans, leave clues wherever they go. Using our awesome powers of observation we will decipher the clues left by the animals living around the nature centre. We might find cocoons, tracks, scat, body parts, left over food or hear the sounds of winter birds. In small groups the students will collect as many clues as possible to discover who lives here.	Understanding Life Systems (Grade 6 – Biodiversity)	January - March
6 & 7	**Interactions in the Environment: Predator Prey Game**	LCNC SMNC AMNC GLNC TNC	Half day	All organisms require energy and in obtaining that energy, interactions occur. Playing the role of mammals in this active game, students will experience how energy is gained, transferred or lost in an ecosystem. Discover how animals, including humans, interact and are affected by biotic and abiotic parts of the environment. Better understand the food chain through a predator or prey.	Understanding Life Systems (Grade 7 - Interactions in the Environment)	September - June
7	**Interactions in the Environment: Pond or Stream Ecology**	LCNC SMNC AMNC GLNC TNC	Half day or Full day	Student biologists collect and identify aquatic animals from a water habitat. Using scientific equipment we take a close look at this aquatic ecosystem to see which creatures are consumers, predators or recyclers. Some of the creatures build their own homes; some can skate on top of the water. Many other discoveries will be made during this popular program. Your class preplan will include detailed notes about requirements for footwear and clothes. Students will be expected to go into the water and will get wet!	Understanding Life Systems (Grade 7 - Interactions in the Environment)	September - November April - June
7	**Heat in the Environment: Shelters**	LCNC SMNC AMNC TNC	Half day	During this fun-filled, active winter day, students will build shelters with natural and human-made materials to keep themselves warm. We will see who survives the activity by building a warm shelter.	Understanding Earth and Space Systems (Grade 7- Heat in the Environment)	January - March

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
7	**Interactions in the Environment: Wildlife Survey**	LCNC SMNC AMNC GLNC TNC	Half day	Every animal, including humans, leave clues wherever they go. Using our awesome powers of observation we will decipher the clues left by the animals living around the nature centre. We might find cocoons, tracks, scat, body parts, left over food or hear the sounds of winter birds. In small groups the students will collect as many clues as possible to discover who lives here.	Understanding Life Systems (Grade 7 - Interactions in the Environment)	September - June
9 & 11	**Sustainable Ecosystems and Climate Change: Aquatic Ecosystem Survey**	LCNC SMNC AMNC GLNC	Half day	Aquatic invertebrates are closely connected to their environment and human activities upstream have a lasting effect on what can live in the water. By collecting living creatures and using a biotic index students will determine the health of this ecosystem. We will investigate the health and possible solutions to human impacts on this habitat. We will discuss how scientific data can be used to look at the potential impacts of climate change on ecosystem's sustainability. Rubber boots or water shoes are needed.	Biology (Grade 9 - Sustainable Ecosystems and Climate Change) Environmental Science (Grade 11 Human Impact on the Environment, Human Health and Enviroment)	September - November April - June
9 & 11	**Sustainable ecosystems and Climate Change: The Value of Trees**	LCNC SMNC AMNC	Half day	There are many values of a tree: commercial, ecological, and spiritual health and wellness. One area of particular interest today is their role in mitigating the impacts of climate change. But not all trees are created equal wen it comes to fighting climate change. Students will investigate factors affecting different species ability to absorb carbon and discuss how best to apply that information to mitigate the effects of climate change.	Biology (Grade 9 - Sustainable Ecosystems and Climate Change) Environmental Science (Grade 11 Human Impact on the Environment, Human Health and Enviroment)	September - June
9 & 11	**Land Stewardship - Invasive Species**	LCNC SMNC AMNC TNC	Half day	Students will learn about native and non-native species through hands-on Land-Based experiences and exploration. Helping students understand the impact of invasive species on biodiversity is important to watershed health. The more people know about the problem, the easier it will be to stop the introduction or spread of invasive species like Buckthorn.	Biology (Grade 9 - Sustainable Ecosystems and Climate Change) Environmental Science (Grade 11 Human Impact on the Environment, Human Health and Enviroment)	September - November April - June

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
11	**Human Impact on the Environment, Human Health and the Environment: Biodiversity Rules!**	LCNC SMNC AMNC GLNC	Half day	Students visit a natural ecosystem, and collect and examine live animals, to discover their shared and different characteristics. They will understand the concept and importance of diversity in natural habitats, and how humans affect biodiversity. Chose an Aquatic or Terrestrial program. If you chose to do the Aquatic program your class preplan will include detailed notes about requirements for footwear and clothes. Students will be expected to go into the water and will get wet!	Biology (Grade 11 Human Impact on the Environment, Human Health and the Environment)	September - October May - June
SHSM	**Introduction to Stream Assessment Protocol**	LCNC SMNC AMNC GLNC - offsite	Full day	Identifying benthic invertebrates (small but fascinating bottom-dwelling animals) in rivers is one way to assess the health of a stream or river. With the expert guidance of a GRCA biologist, students visit a local stream or river and learn to catch and identify these indicators of water quality. Your class preplan will include detailed notes about requirements for footwear and clothes. Students will be expected to go into the water and will get wet!	Specialist High Skills Major – Environment	September - November April - June
SHSM	**Species Identification - Birds**	LCNC SMNC AMNC GLNC	Full day	Students learn how to identify many of our fascinating local birds. A presentation outlines how to use size, shape, song, colour, habits and habitat to make this a nice challenge. We'll head outside to look for our local feathered friends with a GRCA naturalist, using binoculars and field guides to help in our identification. Later in the day, students will take part in an independent bird survey to demonstrate the skills they have learned.	Specialist High Skills Major – Environment	December - June
SHSM	**Habitat Restoration**	LCNC SMNC AMNC GLNC	Full day	This program can take place over one day, or a series of days. Students take part in a habitat restoration project, such as 'rabbitat' construction (shelter for small animals), tree planting, stream rehabilitation, invasive plant removal or erosion control, among others. A habitat restoration tour will show students areas that have been worked on and others that are in need of restoration.	Specialist High Skills Major – Environment	September - June

Grade	Program Name	Nature Centre Location Offered	Duration	Description	Curriculum Link	When Offered
SHSM	**Species Identification - Trees**	LCNC SMNC AMNC GLNC	Full day	Students learn to identify a wide variety of local coniferous and deciduous trees. A GRCA naturalist will introduce tree identification techniques, such as distinguishing opposite and alternate branching, bud or leaf type, bark characteristics and more.	Specialist High Skills Major – Environment	September - June
SHSM	**Compass/ Map, Global Positioning System (GPS) Certification**	LCNC SMNC AMNC GLNC	2 Full days	GPS skills are an important part of our world today and used in numerous jobs or fields of study. GPS certification is mandatory for numerous SHSM sectors including Environment. Our two day program gives you both a Map & Compass certification along with a GPS one. Day 1 will start in a classroom and we'll introduce your students to the GRCA online mapping tool (GIS skills) and learn how to read topographic maps. In the afternoon, we'll head outside and learn to use compass skills to orient ourselves in the real world. Day 2 we'll learn how to use GPS units in the field and how our organization (GRCA) uses GPS technology and mapping in a wide variety of its resource management projects. In the afternoon we'll combine our mapping, compass and GPS skills together to explore outdoors with some practical and fun activities.	Specialist High Skills Major – Environment	September - June
SHSM	**Watershed Management**	SMNC AMNC GLNC	Full day	Students learn how watersheds, including reservoirs, river and land ecosystems, are managed to maintain healthy environments. Students tour water control structures such as dams or dikes, visit water treatment centres and learn how the GRCA manages our local watershed.	Specialist High Skills Major – Environment	September - June