



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. Using our imaginations, we might explore how animals use their senses, or we could follow clues and trails that animals leave behind. Spring offers a great opportunity to investigate the pond. Winter visits may give your students the opportunity to hand feed wild Black-Capped Chickadees.	Science and Technology (Kindergarten)	September - June
K	Nature Play	LCNC SMNC AMNC GLNC	Half day	During this program, outdoor “child-centered” play is our goal. The Nature Centre sites provide natural features like rocks, dirt, trees, bugs, flowers, mud, and water for children to enjoy and discover. Students will be able to dig, collect, climb, build, splash and play. This program is rich in Vitamin “N” for nature.	Science and Technology (Kindergarten)	September - June
1-8	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.	Phys.-Ed (Grades 1-8 Active Living)	January - March

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
1	Daily and Seasonal Changes	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 explore nature to discover what nature has to offer and how plants and animals prepare for seasonal changes.	Understanding Earth and Space Systems (Grade 1 - Daily and Seasonal Changes)	September - June
1	Needs and Characteristics of Living Things : Our Living World	LCNC SMNC AMNC GLNC TNC	Half day or full day	We will go on an interactive hike to discover the different types of animals and their needs and roles in helping to keep our ecosystem healthy. There may be the opportunity for students to some of the Nature Centre creature teachers and learn about their characteristics and needs.	Understanding Life Systems (Grade 1 - Needs and Characteristics of Living Things.)	September - June
2	Growth and Changes in Animals	LCNC SMNC GLNC AMNC 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. <i>Choose from Water Creatures, Incredible Insects, Birds of a Feather and Explore the Forest.</i>	Understanding Life Systems (Grade 2 - Growth and Changes in Animals)	September - June
2	Growth and Changes in Animals: Wonderful Winter Wildlife	LCNC SMNC GLNC AMNC	Half day or full day	They can't hide. Discover clues left behind in the snow to learn about the local wildlife. An animal's tracks, scat, bite marks and sounds can all lead to a possible wildlife sighting. What feathered friends stick around for the winter? We will use our ears and some sunflower seeds to find out which feather friends are still local. Enjoy a close-up encounter with Black-Capped Chickadees.	Understanding Life Systems (Grade 2 - Growth and Changes in Animals)	December - April

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
2	Air and Water in the Environment	LCNC SMNC	Half day or full day	<p>Air and water form a major part of the environment and are essential materials for life. A fall or spring program may include a pollution simulation, water cycle game, temperature and wind speed measurements.</p> <p>A winter program will take a closer look at the composition of snow. With magnifiers, heat and filters we will melt, measure and examine snow. What do animals do when we are not around? In the fresh snow we will track some animals to discover what they do. We may be able to snowshoe with a full day booking.</p>	Understanding Earth and Space Systems (Grade 2 - Air and Water in the Environment)	September - June
2	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)	September - June
3	Active Living: 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.	Phys-Ed (Grade 3 - Active Living)	September - June
3	Soils in the Environment	LCNC SMNC AMNC GLNC TNC	Half day	<p>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.</p> <p>Best combined with Growth and Changes in Plants to create a full day.</p>	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 GLNC AMNC 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 GLNC	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

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
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)	Sept - early November April - June
			Full day	In the full day program, students will also examine the physical aspects of the water habitat; this determines what creature can live there.		
4	Habitats and Communities: Wild Animal Search	AMNC TNC	Half day	Using all our senses we will become nature detectives and collect the clues left behind by wild creatures. What do deer beds look like, why is there a “pile of coffee beans” in the forest, are rabbits the only animals that hop, who is singing that song? Students will explore in small groups to collect clues and unravel the mysteries.	Understanding Life Systems (Grade 4 - Habitats and Communities)	September - June
4&5	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&5 Active Living)	September - June

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
4&5	Active Living: Orienteering with a Compass and Map	AMNC	Half day	Learn the basics of direction and how to navigate with a map and compass. With a bit of practice, the students will navigate their way to different locations outside. Each team of students will take a bearing and travel to several destinations around the property.	Phys-Ed (Grades 4&5 Active Living)	September - June
4	Rocks and Minerals	LCNC SMNC AMNC	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 TNC GLNC	Half day	During this fun-filled, active program, students will build shelters with natural materials.	Understanding Life Systems (Grade 5 - Human Organ Systems) Understanding Matter and Energy (Grade 5 - Properties and Changes in Matter)	September - June
			Full day	During the full day program, lunch time may include a hotdog cookout. Students will do various experiments to learn about the importance of insulation and waterproofing in the winter.	Understanding Earth and Space Systems (Grade 5 - Conservation of Energy)	November - March
6-8	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 (Grades 6-8 Active Living)	September - June

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
6	Biodiversity: Aquatic Biodiversity: Terrestrial	LCNC SMNC 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. If you chose to do the aquatic program your class preplan will include detailed notes about requirements for footwear and clothes. You will get wet!	Understanding Life Systems (Grade 6 – Biodiversity)	September - Oct. April - June
6	Biodiversity: Predator Prey Game	AMNC TNC	Half day	All living things are connected. Maintaining biodiversity is critical to the health of the planet. By playing the role of a predator or a prey animal in this active, food chain game, students will see how energy is transferred through an ecosystem. Discover how animals, including humans, interact and are affected by living and non-living parts of the environment.	Understanding Life Systems (Grade 6 – Biodiversity)	September - June
6	Biodiversity: Wildlife Survey	LCNC SMNC AMNC TNC GLNC	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)	September - June
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

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
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
7	Interactions in the Environment: Wildlife Survey	LCNC SMNC AMNC TNC GLNC	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
8	Water Systems: The Best Dam Tour	GLNC	Half day	Join us for a unique opportunity to learn about some of the area's largest dams. Learn about the role of conservation authorities in Ontario and how the dams, including the Guelph Lake Dam, help control water levels downstream. The dams are also a producer of hydro-electricity.	Understanding Earth and Space Systems (Grade 8 - Water Systems)	September - June
			Full day	Best combined with Everybody Lives Downstream for a full day program.		

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
8	Water Systems: Everybody Lives Downstream	GLNC	Half day Full day	Find out where Guelph's water comes from, how it is treated before we use it and after we flush it. First, we'll tour Waterworks and discover how the city provides its residents with a clean and safe drinking supply 24 hours a day. Combined with a tour of the city's wastewater treatment plant, it is an awesome way to learn about water conservation in our community. Best combined with the Best Dam Tour for a full day program.	Understanding Earth and Space Systems (Grade 8 – Water Systems)	September - November April - June
9	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)	September - November April - June

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
9	Sustainable Ecosystems and Climate Change: Crayfish Aquatic Population Study	AMNC GLNC	Half day	Students take part in a population study of an ecosystem. They collect and identify many species of animals, either in an aquatic or terrestrial habitat. This is followed by a release and recapture to determine a population estimate of a particular species. An example species is the eastern crayfish in an aquatic ecosystem. We will assess impacts of climate change on ecosystem sustainability and on various communities and describe way to mitigate these impacts. Best combined with an Aquatic Ecosystem Survey	Population Dynamics Biology (Grade 9 - Sustainable Ecosystems and Climate Change)	September - October May - June
9	Sustainable Ecosystems and Climate Change: Predator and Prey	LCNC SMNC AMNC GLNC	Half day	Students, playing the role of mammals in this active game, will see how energy is transferred through an ecosystem. Discover how animals, including humans, interact and are affected by living and non-living parts of the environment. See the food chain through the eyes of a coyote, skunk or mouse. We will assess impacts of climate change on ecosystem sustainability and on various communities and describe way to mitigate these impacts.	Biology (Grade 9 - Sustainable Ecosystems and Climate Change)	September - June
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

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
11	Human Impact on the Environment, Human Health and the Environment: 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. Rubber boots or water shoes are needed.	Biology (Grade 11 - Human Impact on the Environment, Human Health and the Environment)	September - November April - June
11- 12	Data Management: Crayfish Population Study – Aquatics	AMNC GLNC	Half day	Students take part in a population study of an ecosystem. They collect and identify many species of animals, either in an aquatic or terrestrial habitat. This is followed by a release and recapture to determine a population estimate of a particular species. An example species is the eastern crayfish in an aquatic ecosystem. Best combined with an Aquatic Ecosystem Survey	Mathematics (Grade 11/12 - Data Management)	September - October May - June
12	Human-Environment Interactions, Geographic Foundations: Environment and Resource Management	LCNC SMNC AMNC GLNC	Full day	This program can take place over one day, or a series of days. The GRCA manages water and other natural resources on behalf of 38 municipalities and close to one million residents of the Grand River watershed. Through hands-on activities in the field, students learn management techniques that the GRCA currently uses in its projects and programs. Options include reservoir and river studies, floodplain mapping, habitat restoration, wildlife and forest management, GPS and others.	Human-Environment Interactions, Geographic Foundations: Space and Systems	September - June

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
SHSM	Introduction to Stream Assessment Protocol Certification	LCNC SMNC AMNC GLNC	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. Students must pass an on-site field identification test to complete this certification. 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 Certification - 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 Certification	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. At lunch - students watch a presentation to learn about projects undertaken by the GRCA to restore, rehabilitate or create natural habitats within our watershed. A short test at the end of this day will complete the certification.	Specialist High Skills Major – Environment	September - June

Grade	Program Name	Nature Centre Location offered	Duration	Description	Curriculum Link	When Offered
SHSM	Species Identification Certification - 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. A field identification test will complete this certification.	Specialist High Skills Major – Environment	September - June
SHSM	Compass/ Map, Global Positioning System (GPS) Certification	LCNC SMNC AMNC GLNC	2 Full days	<p>GPS skills are an important part of our world today and used in numerous jobs or fields of study.</p> <p>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.</p> <p>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.</p> <p>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.</p>	Specialist High Skills Major – Environment	September - June
SHSM	Watershed Management Certification	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 - November April - June