

# Clearpool Education Center

## CLASS DESCRIPTIONS

This provides a short description of all of the programs Clearpool offers.

**Bird Adaptations-** (formerly Bills and Beaks) Have you ever wondered how birds fly or a hawk uses its talons? This class uses hands-on activities to discuss how birds use their unique adaptations to survive.

**Boating-** Clearpool has canoes and rowboats available along with certified lifeguards.

**Bombardier- (*Large Group Activity only*)** This activity is another great end to your Clearpool trip that is designed for the whole group. Students will have to answer various questions on the classes taught during their trip at Clearpool. Seems easy, but beware of the bombardier! If you are tagged by the bombardier be prepared to "perform" a task to get back in the game. This is a fun way to review!

**Botany/Flower Dissection-** This class is a great introduction to understanding the parts of a flowers and flowering plants. Students will learn how to identify certain flowers by their characteristics and also use flowers for genetic studies

**Discovery Hike-** This program explores most of Clearpool's 367 acres of property. Students will go on various trails with a Clearpool staff member, and make stops along the way to discuss local plant and animal species and behavior, history of the woods, and reading the landscape for natural history.

**Dream catchers-** A dream catcher has important significance to Native American history. Putting a dream catcher near where you sleep helps avoid bad dreams. This creative and simple class is offered for students to make at Clearpool, and then take home with them.

**Entomology-** Did you know the largest animal kingdom on the planet is insects? Insects are fascinating creatures that do so much more for us other than bother or sting us. Using insect specimens and various displays students can learn the characteristics of insects, their life cycles and their role in the natural world

**Forest Ecology/Tree Study-** Clearpool has the best "classroom" to study the forest closely, our classroom is our 367 acres of property. This interactive class allows students to understand the relationship between the forest and humans, and the importance to our wildlife in many ways. Tree and leaf Identification will be included to have students understand the differences between deciduous and coniferous trees and their respective roles in the forest.

**Forest Ecosystem/ Quadrat Study-** This class takes a closer look at how a forest works. Using a 1 square meter quadrat students will learn to identify the biotic (living) and biotic (non-living) factors that exist in their quadrat. This is a great program for understanding scientific collection and drawing conclusions based on their data.

**Garden Exploration** -The garden offers students a new opportunity for hands-on learning. Many students today have not had a chance to experience the amazement that grows from observing how a seedling develops, or the wonder that comes from watching a butterfly sip nectar in the garden, or the surprise of learning how good dirt smells. Good dirt? Yes! This program includes studies in vermiculture, native plants, nutrition, composting, soil make-up, food webs, the food system, botany and entomology. Students will use garden tools and their senses while learning to plant and care for a garden, Best of all students get to taste some of what they plant.

**Geology** – Using cooperative games, puzzles and maps, students work together to uncover the mysteries of the rock cycle, plate tectonics and the properties of rocks. Discussions can include the geography of an interdependent world and the dynamics of plate tectonics to discover life from the soil up.

**Healthy Cooking-** This class is a great extension of our nutrition program or is relevant as its own program. This program deals with how to prepare and cook food with healthy ingredients. No more putting pre-packaged food in a microwave for 3 minutes. The Clearpool staff can show how to make smart meals with fresh ingredients that even students can make.

*For a more detailed description contact:  
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**Human Circulatory System** – What is metabolic demand? How do we conduct research providing usable information? Is there a relationship between exercise and heart rate? How does blood circulate through the body? This class, suitable for grades 5-12, will answer these questions as the students learn the basics of the circulatory flow within their bodies and conduct experiments on how heart rates change during different activities.

**Journal Writing/Drawing**- So many memorable moments happen during the trip to Clearpool. A great way to express and remember these moments are to take time and write them down or even draw a picture relating to how the trip has made them feel. With this activity Clearpool can supply journals or students can come with their own. This program is a great way to reflect on the Clearpool experience while exploring creative writing!

**Leaf Packs/Stream Study** – Historically, most small streams in the eastern United States were forested. Leaf fall from the canopy was the dominant food resource for small streams. The leaves that fall into headwater streams accumulate in packs behind branches, rocks and other obstructions. On the leaf surfaces, there is a diverse assemblage of microbes and macroinvertebrate that "process" leaves and facilitate the flow of energy through the system. Macroinvertebrates are often referred to as "canaries of the stream" because they function as barometers or bio indicators that indicate changes in water quality.

**Macro Pond Study** – Students observe a pond and the creatures that live in it. They explore relationships between creatures both in the pond and beyond. Topics include life stages, camouflage, food chains, primary and secondary consumers. Students calculate the biotic index of the pond based on the number of indicator species they find.

**Micro Pond Study** – Students observe a pond and the creatures that live in it, on a micro-scale. They learn some of the relationships that these creatures have with the macro-ecosystem. Students will learn the proper way to use a microscope and how to safely prepare slides.

**Nature Poetry**- Gaining inspiration from nature can help create great stories. This program works well with groups studying creative writing or writing their own poetry.

**Nutrition**- What we eat has so much to do with how we feel both physically and mentally. In today's world we have too many choices, and often choose less healthy options because it can seem easier and less expensive. The reality is that there is a continually growing problem with obesity, especially in children. This program provides a wealth of information about general nutrition, reading the food pyramid, and making healthier choices with both food and exercise. Students will also conduct an experiment to see what a calorie is and what calories do for our body. For older students this is a bonus as it touches on physics and math.

**Ornithology/Bird ID** – This class looks at the observation aspect of birds common to the Northeast. Students discuss habitats, ranges and field markings of various local and migratory birds. They learn how to effectively use binoculars, field guides, and the basic how-to of bird identification, includes bird observations (birding).

**Orienteering**- This program uses multiple skills to "find your way." Students are given instructions on how to use an orienteering compass, basic map reading terminology, and other natural clues to find their way through one of our orienteering courses here at Clearpool.

**Outdoor Cooking**- This program incorporates a few different program topics into one class. Students can learn the history of fire making and how it was important throughout the years and through using some pre-prepared foods students can actually cook and hopefully eat their food.

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**Outdoor Survival-** How long can you survive without water? How about food? This program discusses the science behind survival by almost exclusively our forest at Clearpool. Students can understand what some of their limiting factors are and how important finding their basic needs really are. Students will even construct a survival shelter worthy of protecting them from the elements and help them survive.

\* As an extension to Outdoor Survival- **Winter Survival** can be taught during the snowy months depending on the time of year you come up \*

**Overnight Adventure Course** - In this course, groups of students ages 13 and over will challenge their limits physically and mentally as they experience first hand the basics of backpacking, hiking in the woods, setting up a camp, preparing meals and breaking camp. The course helps develop important life skills such as logical decision-making, effective problem solving and working as a group. It also addresses principles of preservation and ecology as the students learn "leave no trace" outdoor ethics. Undoubtedly, this course will leave a lasting impression!

**Predator/Prey- (Large Group Activity only)** This highly active program uses the entire group of students to "role-play" natural members of a forest. Students will become bugs, frogs, snakes, and hawks who have to not only gain their basic needs but also survive becoming prey to other animals in our food chain. This is a great culminating activity to your trip which covers various topics relating to environmental science.

**Raft Building-** This program is a great class for teambuilding, creative thinking, even problem solving. Students are given materials by Clearpool to construct a raft that floats and can be powered a certain distance across Clearpool lake.

**Resource Conservation-** What would be considered our most precious natural resource? Well, the answer is all of them! Students will learn the difference between renewable and non-renewable resources and sustainable land use practices. Through specific activities and Clearpool's own natural resources students can gain insight as to how we all have to help in making a sustainable future for our planet's resources.

**Snow Art-** Who hasn't made a snow angel? This program takes advantage of Clearpool's great winter surroundings to make snow into Art. Creativity is welcomed in this program!

**Sensory Awareness** – Students navigate the Clearpool Sensory Awareness Trail and may embark upon a scavenger hunt as they investigate how living things use all of their senses to understand and live in the world around them.

**Sledding** – We have sleds and hills and when we have snow, why not!

**Skins & Skulls/Wildlife Adaptations** – Students will explore various skins and skulls, learning how different animals have different methods and means to help them adapt to the environment they live in. At the end of this class, students will make connections by inventing an animal with assigned adaptations.

**Snowshoeing** – If snow is deep enough Clearpool has 30 pairs of snowshoes to explore our 367 acres.

**Soil Science/ Meadow and Wetland ecosystem comparison** – This program focuses on the components of soil both biotic and abiotic. Through a series of tests and experiments students can determine soil composition, general forested location, and even health of the forest.

**Swimming-** Our water front has a great and safe area for students to enjoy a swim.

**Three Sisters**–This garden class explores corn, squash, and beans; their origins, uses today and their importance to the Native Americans. This hands-on class also includes cooking a traditional Native American dish!

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**Tracks & Traces** – This class will focus on discussing and finding evidence of animal activity. The class also discusses other ways that animals leave signs of where they have been. It is a great way to learn about the entire natural history of wildlife.

**Town Meeting**- This role-playing activity has students “playing” the part of a town member or town special interest group. The program allows students time to evaluate the problem or task, develop a debating point depending on their position, and then actually having a mock-debate over the environmental issue. This is a great activity to raise environmental and community awareness and the steps needed to have their voice heard.

**Water Cycle**-The Earth does not make new water, it just constantly recycles the same water. This occurs due to the water cycle that is constantly in motion. Various activities will help students understand the importance of the water cycle and what it means to the planet

**Wastewater Treatment Plant tour/ Dirty Water**- Clearpool Education Center is very unique in that we have our own wastewater treatment facility right on our property. Due to our proximity to the NYC watershed system our wastewater needs to be treated on-site and not released into the surrounding bodies of water. This class offers an in-depth tour of the facility from start to finish. Students can also learn about the different methods used to clean water, and also gain an understanding of how difficult it is to keep water clean.

**Water Quality Testing** – This in-depth program is an outdoor lab to test various elements of a body of water and determine the health of that water. Students will test pH, dissolved oxygen, nitrates, and also look at the biodiversity of the water. This is a great hands-on, inquiry based program geared towards the sciences.

**Watersheds**- This program helps students understand that since we all live in a watershed we all have a responsibility to keep it clean. By the use of watershed models and Clearpool’s own topography students will understand where their water comes from and their impact on the environment.

**Weather**- Sleet, Humidity, muggy, what does it all mean? This program will introduce the concepts necessary to understand how weather works. Students will learn how the water cycle shapes weather, what a forecast means, and how to use weather tools to make their own prediction.

**Wild Worms** – Nature recycles by a process called decomposition. Tiny bacteria and fungi work together to break down plant and animal wastes, which make nutrients available for other living things. In this class, students will learn how worms help recycle plant matter and how their bodies are adapted to living in the soil. They will observe worms, make a composting bin, and even find out why worms are important to them!

**Winter Adaptations** – What does wildlife do in winter? How can animals survive the harsh cold and snow? This class looks at the unique adaptations that wildlife has to hibernate, adapt for winter, or migrate. This class is a great way to understand what an adaptation is and how these adaptations can be seasonal.

**Winter Tree Exploration** – Why do some trees lose their leaves while others do not? This class will explore seasonal changes in trees, the function of leaves, and how to identify trees that have lost their leaves. The class begins indoors with a discussion of trees, the winter environment and tree identification. Outdoor exploration will focus on scientific inquiry and observation.

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