

Bear Brook State Park Digital Field Trip

Teacher's Guide



discover
the power
of parks



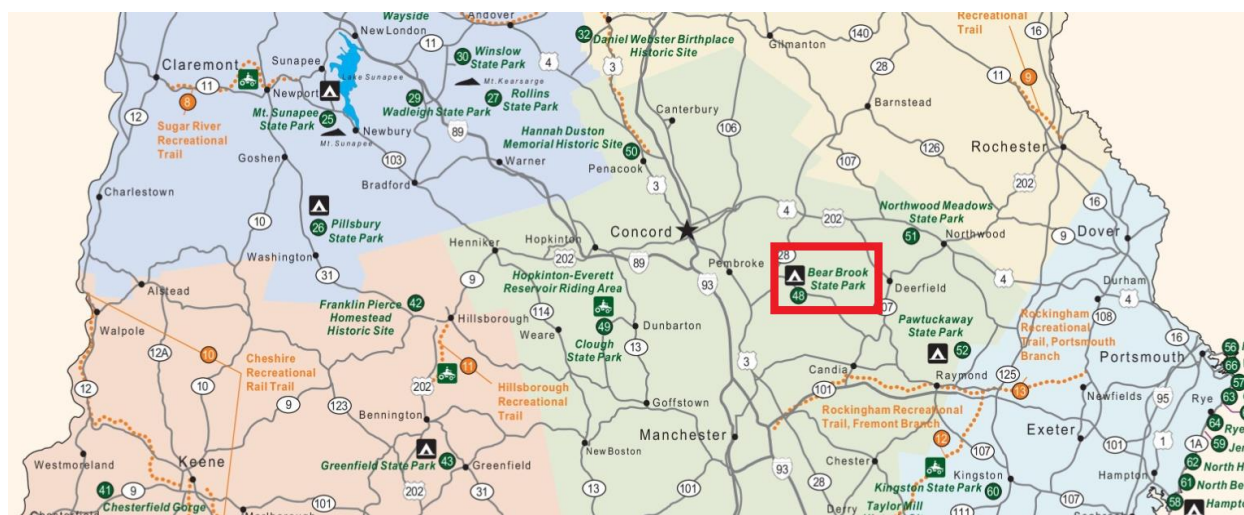
EVERSOURCE AmeriCorps



Introduction

The SCA's New Hampshire Conservation Corps program makes its home in Bear Brook State Park, one of New Hampshire's largest state parks. Located in Allenstown, New Hampshire, Bear Brook State Park's forests, ponds, and marshes provide habitat for wildlife and also offer plenty for human visitors to explore. This digital field trip is divided into five short video segments intended to teach students about some of the habitats and wildlife of Bear Brook, as well as to introduce them to the park's history and the role of the Civilian Conservation Corps in creating Bear Brook. These videos can be watched in any combination or order. In this Teacher's Guide we have included some optional activities that can be combined with the videos to help students further engage with the field trip and understand the information. Additional materials for some of the activities are linked in this guide.

We hope you and your students enjoy our digital field trip to Bear Brook!



A map of southern New Hampshire State Parks with Bear Brook highlighted in red.

I. Hiking at Bear Brook

In [this video](#), students will learn how to [prepare to go hiking](#), learn a little about Bear Brook, and then make observations on a sensory hike.

Supplementary Activities

1. Route Planning

Print out [maps of Bear Brook State Park](#) (or another park) for students. Have the students plan a hike using colored pencils, markers, or highlighters to select a route on the map. Students can then use string to trace their planned route, and measure the string against the scale on the map to determine how long their hike would be. Students can then discuss with a classmate whether or not they think they could hike that far, and what they might see during their hike.

2. 'SCA Says' Cardinal Directions

Introduce the cardinal directions: north, east, south, and west. Students may use the simple rhyme "Never Eat Shredded Wheat" to remember the order. Point out that if you know where one direction is located then you can figure out all the rest. If you face north and hold your arms out, your right hand points east, your back is to the south and your left hand points west. Help

students assign a direction to each of the 4 walls of the classroom and label them with signs or pictures, then play a game of 'SCA Says' incorporating directions related to the cardinal directions the students just learned (e.g. 'Turn to the north', 'Point to the east,' etc.).

3. **Mystery Box**

Ask students to bring in natural materials (tree bark, leaves, acorns, etc.) either from home or from the schoolyard. Put the materials in a 'mystery box'—a shoebox or similar with a hole in the top—and have students feel the objects and make observations using only their sense of touch.

4. **Natural Scavenger Hunt**

Take students outside to the schoolyard or park. Have them go on a scavenger hunt for different colors or shapes in nature—paint chips can be a good metric for color-focused scavenger hunts, or a simple list of shapes (circle, square, star, heart, etc.) can be used for the shape-focused scavenger hunt. When completed, encourage students to discuss why they think some colors/shapes were easier or harder to find.

II. Ponds, Wetlands, and Streams

In [this video](#), students will learn the difference between pond, wetland, and stream habitats, and learn some specifics about each habitat.

Supplementary Activities

1. **Wildlife Checklist**

During the video, students can follow along with a [checklist of the wildlife](#) that are mentioned.

2. **Create a Pond Creature**

Have students create a pond creature from recycled materials, such as clean, empty plastic bottles and cardboard boxes. Students can be imaginative with their creatures, or create animals inspired by the video, like turtles, frogs, snakes, fish, or birds.

3. **Wetland in a Pan**

Use a long, shallow pan (a 9"x13" baking dish or similar) to create a model of a wetland and demonstrate how wetlands can help filter water. Cover half the pan with modeling clay to represent land—the other half will be the water. A piece of carpeting or sponge will represent the wetland, and can be set at the edge of the land. The wetland should fit across the width of the pan. Muddy water can then be poured on the land, and as it passes through the sponge/carpet 'wetland' the dirt will be filtered out of the water.

4. **Ponding**

Take students to a local pond or water body with nets, buckets, and magnifiers. Establish ground rules for net use and pond exploration. Students can use the nets to search the pond for critters and examine them with magnifiers. Print and bring along a [pond life guide](#) to help students with identification.

5. **Outdoor Listening**

Take students outdoors to the schoolyard, park, or (ideally) a pond. Have the students sit in a circle and time them for a minute of quiet time—during this time, have the students close their eyes and count on their hands how many different sounds they hear (natural or unnatural). When students are done, have them discuss the sounds they heard, the ones they could or could not identify, and what sounds were their favorites.

III. Salamander Search

In [this video](#), students will meet some of New Hampshire’s salamander species and learn how they can safely search for salamanders.

Supplementary Activities

1. Spot a Salamander

In their habitat on the forest floor, some salamanders camouflage themselves so that they blend in and are hard to spot—other salamanders are colorful and stand out to warn other creatures that they aren’t good to eat (they may be toxic, or they may just taste bad). Have students create a salamander out of construction paper and then draw and color a habitat for it. Students can decide whether their salamander will stand out or blend in to its habitat.

2. State Amphibian

The red-spotted newt (also known as the red eft) is New Hampshire’s state amphibian. It became the state amphibian after a campaign by New Hampshire students in 1985. Have students research the red-spotted newt and explain why it was a good choice for the state amphibian; alternatively, have them pick a different frog or salamander for the state amphibian and explain why their choice is better.

3. Log Roll

If you have access to outdoor space, take the students to a forested area where there are logs on the forest floor. Help students roll over logs and search for salamanders and other creatures underneath the logs. When you are done, return the logs to their original locations.

IV. Vernal Pools

In [this video](#), students will learn about the vernal pool habitat and some of the creatures that use these special places. In particular, they will learn why frogs, salamanders, and other animals may lay their eggs in vernal pools, and learn the difference between frog and salamander eggs.

Supplementary Activities

1. Frog Band!

Frogs use their unique songs to help attract their mates. Students can use the [Frog Band worksheet](#) to create a frog band, exploring the skills of each frog and creating a story about their band. To help students understand what frog calls they might hear, you can play them some of the calls from [this website](#).

2. Amphibian Migration Tag

Frogs and salamanders migrate from their winter homes in ponds to vernal pools in the spring. This can be a difficult journey. To demonstrate this, have students play a game of tag in the schoolyard or gym. Assign some students to play predators like an owl, raccoon, or fox. The other students are all frogs and salamanders. One end of the gym is the pond and the other is the vernal pool, and the salamanders and frogs have to get from one end to the other.

3. Amphibian Migration: An Incredible Journey

Have students write a story or draw a comic about the amphibian migration from ponds to vernal pools. Students should include some hazards amphibians may face on their journey, like roads and predators.

V. The CCC Museum

In [this video](#), students will learn about the history of the Civilian Conservation Corps at Bear Brook, and visit the CCC Museum at Bear Brook State Park.

Supplementary Activities

1. Word Jumble
During or after the video, have students complete the [word scramble worksheet](#).
2. Design a Park
Print out [maps of Bear Brook State Park](#) for your students. Show them how the legend in the corner indicates different landmarks in the park—trails, campgrounds, restrooms, beaches, and so on. Students can also identify some of the places mentioned in the video, like the Broken Boulder Trail, Spruce Pond Camp, Bear Hill Camp, and Catamount Pond. Then give students the opportunity to design their own park by drawing a map and marking ponds, hills, trails, and special features like beaches and campgrounds. What do they want their park to have? What will visitors do in their parks?

Science Standards

The field trip can meet a range of science standards, depending on which videos and supplementary activities are used. Since most of the classes we work with are 4th grade classes, we have included the NH State Science Standards we feel the digital field trip can meet for the 4th grade level.

- S:SPS1:4:1.1 Extend the senses using simple tools.
- S:SPS1:4:1.2 Make and record observations for a given purpose.
- S:SPS1:4:1.5 Classify according to several attributes and describe or show the method for classification.
- S:SPS1:4:1.6 Compare methods of classifying based on the goal.
- S:SPS1:4:4.3 Identify and suggest possible explanations for patterns.
- S:SPS2:4:2.1 Demonstrate that if something consists of many parts, the parts usually influence one another.
- S:SPS2:4:2.2 Provide examples that demonstrate that something may not work well (or at all) if a part of it is missing, broken, worn out, mismatched, or misconnected.
- S:SPS1:4:1.7 Ask questions about objects, organisms and events in their local environment.
- S:LS1:4:1.1 Recognize and identify the various ways in which living things can be grouped.
- S:LS1:4:3.2 Recognize that living organisms have life cycles, which include birth, growth and development, reproduction, and death; and explain how these life cycles vary for different
- S:LS2:4:1.1 Describe how the nature of an organism's environment, such as the availability of a food source, the quantity and variety of other species present, and the physical characteristics of the environment affect the organism's patterns of behavior.
- S:LS2:4:1.2 Describe the interaction of living organisms with nonliving things.
- S:LS2:4:3.1 Recognize that plants and animals interact with one another in various ways besides providing food, such as seed dispersal or pollination.

- S:LS4:4:1.1 Recognize that an individual organism's behavior is affected by internal cues, such as hunger and thirst; and describe how an organism uses its senses to understand and respond to these cues.
- S:LS4:4:1.2 Recognize that an individual organism's behavior is influenced by external cues, such as seasonal change; and describe how an organism might react, such as migrating or hibernating.

Our field trip also meets Next Generation Science standards for both third and fourth grade. We have listed some of those below.

- 3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- 3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- 3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.
- 4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.