

## Previsit Land of the Natcotchtank

This program lets instructors combine cycles in nature, life cycles, with sustainable cultures of pre-Columbian people.

Background: The area along the Anacostia that is now a park has been occupied off and on for thousands of years. The Natcotchtank were the people living there when John Smith arrived.

The park has stone tools and other artifacts of some of these occupations. Because the land is protected to some extent, a remnant of the marsh of the Natcotchtank still exists at Kenilworth Aquatic Gardens.

Prepare students for their trip by talking about what makes a culture or way of living sustainable. Some things to bring up will be recycling, using local materials and food supplies instead of transporting them across continents, not making permanent changes to the land, living on what the land produces without adding chemicals or taking more than can be replaced in a year. Things that are biodegradable are sustainable. Things that never break down are not sustainable.

If your students are young learners, introduce cycles. There are big cycles like the one the Earth makes around the sun causing the seasons. There are life cycles. Some are long, like trees or some reptiles and people. Some life cycles are short, like annual plants and some insects.

The Natcotchtank would have to learn these seasonal and life cycles to know when and where to get food and materials they needed to survive. For instance they would gather ferns and tuckahoe (*Peltandra virginica*) in the spring, and hunt turtle eggs, but in fall hunt the migratory geese and ducks that flew in to eat the seeds of the marsh. Cattails provided food all year.

You can download the summer field guide in the plant section of the park website if you want to identify plants discussed, or you can keep it general to the time of year you visit. Some familiar plants of importance you and your students may see are; the cattail (the corn dog on a stick) plant that gets all fuzzy and grey in winter, poke berry with its juicy purple berries that are poisonous, but make a great pink dye, and the wild rice which has a fire cracker like flower head in late summer and grows out the first bump out of the boardwalk and in the remnant marsh.

Students should know that the first people here had to catch or hunt their food, no grocery stores. This meant making spears for fishing out of cattail stems, fish traps out of willow to put in tidal streams, and arrows out of twigs and bows out of stouter wood. They also had to find clean water, build shelters and find materials such as bone, wood, or stone for tools.

The land looked different in the Natcotchtank's time, the trees were bigger and the forest more dense. The Anacostia River was deeper and had more fish, mussels, and wildlife along its banks.

**For pre-visit discussion:** Today, we can't eat the foods in the park the first people would have eaten because the soil is contaminated with heavy metals. Have a discussion on what the essentials of life are. Make sure to include clean water, air, and a healthy environment to live in and find food.

Have students think of one thing they use often that is made of plastic. When in the park they are to look for alternative materials to make this object from.

**In the park:** As you come down the path from the parking lot you come to an open triangle of grass. This may be a good place, depending on the size of your group, to have students make cycles. Have two thirds of the students form a large circle to represent the Earth's cycle around the Sun. This is a seasonal cycle. Inside this circle all but one remaining student form a smaller circle represents a person's life cycle. Inside this one, one student turns in a circle to represent the life cycle of a butterfly. If the students move their circles to get back to their original location to make a cycle, they will see it takes the students in the big circle much longer to get back to their starting position than the students of the smaller circle, and the one student can make many turns before the big cycle is complete.

From there, heading to your left moving clockwise around the ponds, the first wild place you come to is the remnant marsh to the left of the ponds. It is affected by seasonal cycles itself, freezing in winter and growing plants in summer. It is also affected by the moon's cycle which controls the tides, flooding and drying the wetland sometimes twice a day. The moon is on a 28 day cycle, so high and low tides are not always the same, day to day. The plants in the wetland each have their own life cycle. Some are annuals, such as cardinal flower which sprouts, blooms, sheds its seeds and dies in a few months. Some are perennials, like trees, ferns, and cattails. They change through the season and seem dead in winter, but they are dormant. The Natcochtank would have to know when to come to gather fern fiddle heads to eat or cattail seeds to make into flour. The life cycles of the plants affect the life cycles of animals. Insects need plants and other insects to eat, so they don't want to come out of their egg stage too early or late. The insects affect the life cycle of animals that eat them like frogs and birds. These would be used as food by fox and people, so people would need to know when to hunt them.

Out on the boardwalk you can see how the plants die back and affect the water. In most of the year, their leaves slow the flow of water in the tidal gut which you cross first on the boardwalk. That would affect the fish in the river, making it easy or hard for them to get far upstream to eat. In summer, these plants would provide a hiding place for the baby fish, so the fish have to lay their eggs at the right time for them to hatch in summer. The Natcotchtank would need to know this also so they could maximize the number of fish caught in their traps. If the water is too fast, it would tear apart their traps.

At the first platform bump on the boardwalk, you can see a marsh with cattail, wild rice, and other edible plants. The Natcotchtank would have to time their trips in their canoes to gather these seeds with the high tide, or get stuck in the mud. They would have to know seasonal cycles as well as tidal cycles to know when to go in and get seeds.

On the way back out from the boardwalk look for the poke weed. It will have a red stem in fall with the distinctive purple berries in the fall. Caution students not to eat the poisonous berries. You can explain that the young shoots in spring (which takes experience to recognize) were eaten, but in late spring, it

begins to show red and is poisonous. The berries make a pink dye. If your students have paper with them, they can mash berries on the paper to stain it. Just wash hands when done!

At the beginning of the boardwalk is a cattail marsh. In spring, the pollen is edible and high in oil. In late summer, the seeds are edible and high in protein. The shoots can be eaten in spring. The roots can be dug all year and turned into a powder that is high in protein. The fuzzy part that falls off in winter is antibiotic. The Natcotchtank would have known when to gather what from the cattail based on the season and the plant's life cycle.

In the ditch of the remnant marsh, making a right to come back to the visitor center, you may see a red color on the water. This is metabolized iron. The iron is in the clay soil and microbes eat it making it available for plants.

**Post visit follow up:**

Do you think the Natcotchtank were more aware of cycles that we are today? Why or why not? Ask students who knows which stage the moon is in. Even today, some people plant and harvest crops based on the phase cycles of the moon.

Open the discussion of what they use that could be made from non plastic resources such as those found in the park. While they may not have seen refined metals in the park, point out the red color on the water in some places shows the presence of iron. What about stones, animal bones or skins, and plant materials?

If you want students to practice making something, you can cut slits to within an inch of paper so there are a series of slits in the paper. Students can then weave strips of paper in those slits to make a mat. Staple or tape the strip ends to hold them in place.

