

## Ecosystems Lesson Plan

The term “**Ecosystem**” means all the members and parts of any particular area that is being observed. It can be as broad as planet Earth or as small as a sample of pond water. An Ecosystem consists of **Biotic** factors, i.e. living organisms, and **Abiotic** factors, such as Sun, Air, Water, and **Substrate** (rocks, sand, soil etc). The Biotic factors of the Ecosystem can be classified as **Producers, Consumers, and Decomposers**. With a few exceptions, these groups are respectively Plants, Animals, and Fungi.

### **Objectives:**

1. To observe and identify Biotic and Abiotic factors at work in Meadow, Woodland, and Wetland habitats at Tugaloo Bend.
2. To Compare and Contrast the types and numbers of Plants, Animals and Fungi observed in each habitat and to discuss the relationships between them.

### **Materials:**

1. Paper and pencil, something to write on such as a clipboard.
2. Small garden trowels or old metal spoons.
3. Magnifiers, if desired (Tugaloo Bend staff can provide these).
4. Park map.
5. Everyone should wear sturdy shoes or boots that can get muddy, socks, and bug spray. Long pants and a hat are strongly recommended.

### **Procedure:**

Begin your observations in the **Meadow**. Have students spread out and sit quietly observing their surroundings. Remember that animals are shy, so they must be patient. Look up. Look down. Look under the ground. Listen. Have them stay as long as is reasonable before they become restless. Have them record their observations about the **Factors** that are at work in the meadow ecosystem.

Proceed to the opposite side of the Meadow from the pavilion and enter the **Woodland** on the Taucoe Trail. Follow the trail a short distance then turn right onto the Tetohe Trail. This trail is steep and more narrow than other trails. Please be careful. As you near the bottom of the slope you will come to an area where there are many large fallen trees and logs. Have students spread out and sit on the logs if they like. Repeat the observation procedure. Dead logs are often home to many kinds of insects and fungi. Remember to look up up up (!) into the giant trees in this area.

To continue the exploration, follow Tetohe Trail a very short way to where it intersects Unicoi Trail. Turn left and very shortly you will be walking along the banks of a **Wetland** area. Further along this trail are some benches and more fallen trees, all of which make good observation points. The trail continues till you reach a bridge. In this area you may see and hear water birds, amphibians, and larger examples of Fungi. The larger animals in the park, such as wild turkeys, are generally more common as you get closer to the river. Once you cross the bridge you join the Estatoe Trail.