

# Golf and the Environment

Golf courses are community green spaces that provide recreational and environmental benefits to local areas. Golf courses are large parcels of land with healthy turf, trees and other vegetation. Collectively, they provide wildlife habitat, improve air quality, reduce noise and dust, filter surface water, recharge ground water supplies, and in many cases are used to reclaim and restore environmentally damaged sites.

## Student Learning Objectives

- 1. Identify and record the natural environmental features which were incorporated into the design of the golf course.**  
Lakes, ponds, wetlands, trees, rivers, streams, topography, geological features and native areas.
- 2. Identify and record golf course features which were designed or planted to protect the environment. Explain how the features protect the environment.**  
Drainage and storm water retention systems, use of native and pest resistant plants, and buffer zones.
- 3. Identify golf course maintenance practices designed to conserve resources and protect the environment.**  
IPM strategies, low maintenance areas, mowing heights, irrigation schedules, recycle clippings.
- 4. Identify positive environmental factors that a golf course provides to the surrounding community. Explain the benefits of each.**  
Wildlife habitat, clean air, water filtration and recharge, noise reduction, and land reclamation.
- 5. Observe and record how water moves through soil and the factors which affect drainage.**  
Gravity, soil texture, layering and perched water table.



## Field Trip Requirements

- Safe location on the golf course where running water is available and students can see examples of environmentally friendly architectural design, and maintenance practices.
- Aerial photo of the golf course.
- Samples of sand, silt, clay, gravel or other soil components.
- Six empty two-liter clear plastic bottles with the bottoms cut off. The upper (neck) portion will be used.

## Field Trip Outline

The golf course superintendent or golf course representative will host a walking tour of the golf course with an emphasis on introducing students to the positive environmental impact of a golf course within the community.

The host will begin by showing an aerial photo of the golf course (or sample golf course) and point out how the golf course fits into the surrounding natural environment. The host will then lead the group on a walking tour of the golf course; pointing out natural features such as lakes, ponds, wetlands, trees, rivers, streams, topography, geological features, wildlife corridors and native areas. Tell how these features impact the surrounding area. The host will also point out golf course design elements (drainage swales, native plants and buffer zones) along with maintenance practices (use of IPM, low maintenance areas, mowing heights and clipping recycling) and discuss the environmental impact of each element or practice.

For the class activity, the students use empty two-liter, clear plastic bottles to view water movement through soil. After cutting three inches off the bottoms of the bottles and plugging the neck opening with cotton or paper towels, the students will fill the bottles 2/3 full of the different soils. Representative samples of straight sand, silt, clay along with layered combinations should be used for demonstration. The students will then pour water over the soil and watch the water move through the soil. The host will then discuss the factors which influence water movement through soil. Factors such as gravity, soil type, compaction, layering, and perched water table should be discussed.

## Additional Resources

- Textbook titled: Turfgrass Management for Golf Courses by James B. Beard
- Booklet titled: Environmental Principles for Golf Courses in the United States by The Center for Resource Management