



Water Conservation

Water comprises 80 to 85% of the weight of a grass plant. In most locations, supplemental water in the form of irrigation is needed to maintain healthy turfgrass plants throughout the season. Efficient water use is a very important component of a golf course maintenance operation.

Student Learning Objectives

1. **How and when is water used on a golf course?**
2. **How do you decide when to irrigate?**
3. **Where does the water come from?**
(Reclaimed water, municipal, wells, streams, lakes)
4. **Observe and document the application of differing water conservation efforts of golf courses.**
(Visual appearance of brown areas, existence of native plants, use of drip irrigation systems, types of sprinklers, weather stations, use of weather data, moisture sensors and use of drought tolerant grasses.)
5. **What are the delivery systems used for water on the golf course?**
(Pump systems, sprinkler heads, drip irrigation systems, energy conservation efforts.)
6. **Why is it important to conserve water?**
(cost, playability, disease management, resource management)



Student Worksheet Questions

Review the worksheet questions with students at beginning of lab and at the end. It may also be printed out for students to complete as part of the field trip.

1. Water conservation
 - a. How do superintendents decide when to water?
 - b. How can a golf course conserve water?
 - c. Why is it important to conserve water?

Note: The teacher may want to have additional material covered and will add to these questions. Take time to talk with the teacher in advance of the field trip.

Field Trip Requirements

Review of your irrigation system and water conservation efforts.

Field Trip Activity Outline

Either host a walking tour of the golf course or just stand and point and discuss your central irrigation control program. Show the central computer, weather station, pump station, radio control and watering program.

Ask the students and see what they say

1. What do plants need to live?
2. What happens when plants don't get enough water?
3. What happens when grass gets too much water?
4. For those who water grass at home, how do you know when to water your lawn?
5. How do we know when to water the golf course?

Talk about the role of irrigation in management of healthy turfgrass, and the importance of conserving the quantity of water use. Show different types of sprinklers to the class. If you are able, show the sprinklers in action. Students love seeing the controllers activate the sprinklers at your command. If you are near the maintenance facility, students love to see the computer operating system.

Ask The Students

Discuss the management factors such as soil type, grass type, temperature, wind and evapotranspiration (ET) rate which must be considered when determining how and when to irrigate turf. Relate the differences between golf course and home lawn irrigation practices – individual head control vs. zone control, sensors vs timers.

As the golf course tour progresses, point out several measures (weather station, non-irrigated turf areas, sensors, examples of drip irrigation, low flow sprinklers, use of native plants, and drainage swales, etc.) that the golf course uses to conserve water.

If you have a weather station, share how using it helps you manage water use.

Has anyone heard of reclaimed water? It's waste water that has not been treated to drinking water standards that can be used to meet daily irrigation needs.

What can be done at home to conserve water?

Wrap Up

Tell the students that you are going to review what they have learned. Ask them the questions that you posed at the beginning of the lesson plan and make sure they know the answers. If you are using the worksheet, have the students complete the worksheet and read out the answers.



Worksheet for Water Conservation Learning Lab

Date _____ Golf Course _____

Student Name _____

Please answer the questions below while participating in the learning lab:

a. What are the different ways golf courses water the turf grass?

b. How can a golf course conserve water?