

Leaders Guide (Water Quality)

You have been assigned the water quality station at your field site. You will be working with another leader at this station. Your packet will contain the names of personnel at your site for the field trip days. Please coordinate with your co-leader to organize your station.

The purpose of this station is to determine the general water quality and flow rate for your stream. Your station will be flagged in orange.

You will be leading three different groups of 16-18 middle school students for 50 minutes during the field trip dates. Each of these groups will be broken down further into pairs of students for the tests. You should allow 5-10 minutes at the end of your session for clean-up and transition to the next station. The students will then move on to either the macro-invertebrate or the riparian buffer stations.

Introduce yourself to the students and talk briefly about your job position and answer any questions the students may have. During your time with the students, try and tie together the importance of the other two stations (riparian buffers and macro-invertebrates) to the water quality in your stream. You will be using the following equipment at your station. You should pick these items up at the beginning of each day from the site director and return them in the afternoon. If supplies are needed, broken, or missing: the site director should be notified at the end of each day for replacement.

6 protected thermometers

1 100' cloth tape

oranges

1 Large Green Water Testing Kit

9 clipboards

data sheets and instructions

2 turbidity tubes

wire flags

2 stopwatches

4 Small Green Water Test Kits (buckets)

pencils or pens

extra vials and bottles for testing

Follow the directions for the individual water tests for DO, turbidity, PH, temperature, and nitrates. Instruct the students to record their results on their data sheets. Take one test for coliform bacteria each day and return this test to the site director. This will be given to the classes for observation and incubation. Conduct the water flow test and record the results on the data sheets.

Optional

Allow the students to measure the average depth at three points in the streambed. This can be used to determine the actual volume of water flow in your stream during the follow up work in the classroom.

Gather the entire group together for a brief discussion. Discuss the general sample findings and discuss the acceptable and unacceptable values for each of the tests. Have the students clean their supplies and be ready for the next group. You will probably not have time for optional activities at this site. Again, you can organize and present this station as you and your co-leader find appropriate. Just make sure the basic information is covered **and the students turn in their data sheets to you before they leave.** Turn all the data sheets in to the site director at the end of the day.

Safety

The students will need to be careful wading in the stream at this station. They should be reminded about the slippery rocks in the stream.

Important concepts:

- **Check your supplies and know how to use them.**
- **Teachers should handle any discipline problems if they occur.**
- **Teachers are familiar with the tests and are valuable tools for the station. There may also be parents and volunteers with your groups.**
- **Report any safety concerns, accidents, or needs to the site director.**
- **Be prepared to start by 9:00 AM each day and leave around 2:00 PM.**
- **A bag lunch will be provided for leaders.**
- **Debriefing will be held with the site director between 2:00 and 3:00 the first two days of the field trip. Your attendance is optional for this meeting.**
- **Let the site director know if you are unable to be at your site due to an emergency. Let them know as soon as possible.**
- **Field trips will be held during unfavorable weather unless a safety issue exists (lightning, floods, heavy rain, etc). You will be notified if there is a cancellation of the trip as soon as possible and the make-up day is Thursday, 22nd. On the day of the trip, the project director will decide no later than 7:30 AM if a cancellation is necessary. After that time, you may call 540-432-8228 for a recorded message about the status of the field trip on that day.**
- **Visit and organize your station before the first trip.**
- **Have fun with your students!**