

Leaders Guide (Macro-Invertebrates)

You have been assigned the macro-invertebrate station at your site. You will be working with another leader at this station. You should coordinate with your co-leader for your station responsibilities. Your packet will contain information about personnel at your site.

The purpose of this station is to show how the animals that live in the stream are indicators of water quality and their relationships to food chains. Your station will be flagged in red.

You will be leading three different groups of 16-18 middle school students for 50 minutes during a three day period. Each of these groups will be further broken down into groups of 4 for the individual water sampling using the kick seine method. You should allow 5-10 minutes of your time at the end for clean-up and transition to the next station. The groups will then visit the other two stations (riparian buffers and water quality) when they leave your site.

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 (buffers and water quality) to the macro-invertebrates in the stream. Check the students knowledge of food chains and their importance. 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.

4 seine nets with poles
8 brushes
1 white sheet
2 plastic ice-cube trays
30 Petri dishes
6 eye droppers
pens or pencils
2 folding tables

colored flags
4 plastic 3-gallon buckets
10 tweezers
4 ID sheets-placemat style
2 flash card sets
5 clip boards
data and instruction sheets

Follow the general directions for collecting the animals using the instructions provides. You may choose to have 2 or more groups of students sampling at one time. This will depend on the size of the stream and proficiency of the students at sampling. Mark the area with the flags to prevent a resample. ID the macro's and instruct the students to record their findings on their data sheet.

Bring the entire group together for a brief discussion. Discuss the general sample findings and introduce indicator groups by species. Have the students clean their supplies and be ready for the next group. Return the animals downstream of the area you have

sampled. 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!**