

## SCHOOLYARD SURVEY AND FIELD GUIDE

### Objective

- Students become familiar with their local habitats
- Learn basic research skills
- Practice identification techniques including dichotomous keys
- Produce pages for an annual survey and field guide

### Materials

- Students in groups of two
- Each student has a field notebook
- Mapping and field guide materials
- Published fields guides for the local area – a large collection of these is best. Remember all organisms – and perhaps rocks and soil – are being explored. Guides are available for most of these things
- Dichotomous keys and other identification materials
- Various field collecting tools
  - This is ultimately a personal/budgetary choice on each teacher's part. Materials for field work can be very affordable, often purchased at "dollar" stores, more specialized equipment can be purchased at teacher/science supply stores (in Columbus, Ohio, Sheridan's is a great resource.) Here are a few suggestions
    - White, plastic ice-cube trays
    - White or clear plastic spoons
    - Clear, plastic containers with snapping lids
    - Butterfly nets (these can often be distracting, disrespectful to bugs if not used properly, dangerous to other students and often not really necessary – you can catch plenty of bugs without a net!) Nets are especially good for sweeping in tall grasses
    - Personal magnifiers (perhaps shared in groups of two)
    - Vials with screw on lids
    - Some sort of temporary bug holding cage
    - Dissecting microscopes
    - A white sheet
    - A blacklight for nighttime surveys
    - Small shovels (with caution!)
    - A Hula Hoop
    - Measuring tape
    - String (especially for habitat measurements)
    - Bottled water
    - Long handled pots (for aquatic sampling if available)
    - First aid kit

### Procedure

This activity should be revisited throughout the year and among different years. A good survey and field guide should consider as much data as possible. Students will appreciate the work of classes before them and build on previous work of their own.

Students work in groups of two. Each group is responsible for a subset of the data for the class. This could focus on an organism (or set of organisms), a particular habitat type, a geographical area in the schoolyard, a particular group of organisms (eg 'leafy' trees, needle trees, grasses, flowers, insects, birds, predators, scavengers, herbivores, and so on...), or any variety of other parameters you or your students determine.

Before beginning your survey, have the students predict in class-derived lists what they expect to find. Be sure they record these predictions in their notebooks to refer to later. Library, Internet, field guides or any other appropriate research tools can be used a before the first field work if you'd like. Many educators feel it is better for students to have the experience before developing a lot of expectations and pre-conceptions, so you may opt to get out there and look stuff up later.

Spend some time deciding what information is important for student field notebooks – develop a standard format and explain the importance of *replicable* procedures. The students in next year's class should be able to use this year's notebooks and conduct the identical study. This way, results can be fairly compared between years. You cannot get data after you come back from the field, so this needs to be organized before heading out. Be sure the students know their responsibilities – each group is contributing to the final product and will often have only one chance to make observations.

Have a discussion about respect and respectful interactions. Organisms collected (with some exceptions) are 'kept' in the field notebook in the form of word descriptions and drawings. In some cases, leaves or other sorts of materials may be collected. This is most effectively handled with a discussion and consensus on the appropriate approach. For example, many teachers choose to have students make a pinned insect collection. As long as the subject of respect and the decision-making that goes into collecting is considered, this can be a memorable and challenging activity.

Set a specific amount of time and any appropriate boundaries. Explore the site before sending students out to ensure it is safe – it is common in many schoolyards to find condoms, needles and broken glass. Students will find this if it's there. You may choose to leave things as they are and warn students how to behave in the event the encounter 'questionable' materials. You may also choose to clean the area before sending students out – either way, ou should know what's there. Be sure each student knows how much time they have to collect data and suggest strategies they can use to be most efficient.

When you come back in, you can compile data among groups or have each group work on their presentation, which should include verbal reports to the class and the field guide piece. Frequent opportunities should be provided for students to share their progress with the class. At some point in the process you may (or may not) want to refer to previous classes' efforts. This may be more effective at the end of the activity. Exploring similarities and differences in the final product form class to class can provide opportunities to discuss some of the decisions you have made along the way.

This activity can be repeated seasonally or at different times during the day.