BioBlitz

# Objectives

At the end of the BioBlitz students will be able to:

1. Collect invertebrates from their campus or school.
2. Classify the collected specimens.
3. Prepare an electronic and/or specimen collection
4. Describe the invertebrate’s diversity from their campus or school
5. Hypothesize about diversity in their campus or school

# Instructions for Students

Students assemble in groups of two or three people and choose one of the following projects to develop a collection of invertebrates.

1. Leaf litter Invertebrates
2. Ground dwelling Invertebrates
3. Mobile Invertebrates
4. Aquatic Invertebrates
5. **Leaf litter invertebrates (collect 10 species)**

**Method**

Take three leaf litter samples from the study area. Each sample will be placed in a plastic bag.  Bag should be completely filled.  The samples will be placed in a Berlese funnels (one per sample) for four days. Each sample must be labeled with the following information: place of collection, collection date, name of the collector, species.   During the BioBlitz the collected invertebrates will be identified.  Turn in the list of species. One week after the BioBlitz, deliver the collection as an electronic portfolio that includes photos and the list of species collected.

**Materials**

Each group will bring the following materials if the instructor could not provide them (check with your instructor before getting them).

1. Three plastic bags (zip lock type, storage size) to take samples
2. Three Berlese funnels and other equipment to assemble the funnel in the laboratory (<http://bughunter.tamu.edu/collection/collectionequipment/berlese-funnel/>)
3. Small glass bottles to store small samples (baby food type or smaller)
4. Alcohol (bring 1 bottle ethyl alcohol 70%, sold at any pharmacy, bring the day of the collection of leaf litter)
5. Labels (as much as needed)
6. Notebook, pencils, markers
7. Petri dishes, tweezers, probes (provided by instructor)
8. Stereoscope or microscope (provided by the instructor)
9. **Ground-dwelling Invertebrates (collect 10 species)**

**Method**

Place five pitfall traps in the study area. Add ethyl alcohol to the trap.  Samples must remain in the field for four days.  Sample should be checked daily to make sure they are kept in place and add alcohol if needed.   Collected specimens will be placed in glass jars and taken to the laboratory. All specimens must have a label with the following information:  place of collection, collection date, name of the collector, species.   During the BioBlitz the collected invertebrates will be identified. Turn in the list of species. One week after the BioBlitz, deliver the collection as an electronic portfolio that includes photos and the list of species collected.

**Materials**

Each group will bring the following materials if the instructor could not provide them (check with your instructor before getting them).

1. Five circular pitfall traps (https://pubs.ext.vt.edu/content/dam/pubs\_ext\_vt\_edu/444/444-416/444-416\_pdf.pdf)
2. Alcohol (bring 1 bottle ethyl alcohol 70%, sold at any pharmacy, bring the day the traps will be deployed).
3. Labels
4. Notebook, pencils, markers
5. Petri dishes, tweezers, probes (provided by the instructor)
6. Stereoscope or microscope (provided by the instructor)
7. **Mobile Invertebrates (butterflies, True bugs etc.) (collect 10 species)**

**Method**

It is recommended to collect the invertebrates three or four days before the Bioblitz.  All specimens should have a label that should include the following information:  place of collection, collection date, name of the collector, insect order and species if possible.  The collected specimens should be ready for mounting and identification during the BioBlitz.  Deliver the collection and a list of species during the BioBlitz.

**Materials**

Each group will bring the following materials if the instructor could not provide them them (check with your instructor before getting them).

1. Net to capture insects
2. Entomological needles
3. Box for the collection
4. Paper towel
5. Equipment to mount insects
6. Glass jars, small (baby food type or smaller)
7. Alcohol (bring 1 bottle ethyl alcohol 70%, sold at any pharmacy, bring the day of the collection).
8. Moth balls
9. Guide for collecting and mounting of insects (see References)
10. Labels
11. **Aquatic macroinvertebrates (collecting 10 species)**

**Method**

Visit the study area to collect aquatic invertebrates.  All collected specimens will be placed in a small aquariums or buckets to be taken to the laboratory for identification during the Bioblitz.  Take pictures of your specimens.  After identification, return all specimens to the creek.  Deliver a list of species collected during the BioBlitz. One week after the BioBlitz, deliver the collection as an electronic portfolio that includes photos of the identified specimens and the list of species collected.

**Materials**

Each group will bring the following materials if the instructor could not provide them them (check with your instructor before getting them).

1. Kick net or nets for the collection of aquatic invertebrates (http://ecosystems.psu.edu/youth/4-h-stream-teams/how-to-guides/complete-a-kick-net-study
2. Gloves
3. Buckets
4. Boots rubber
5. Glass jars, small (baby food type or smaller)
6. Notebook, pencils, markers
7. Petri dishes, tweezers, probes (provided by instructor)
8. Stereoscope or microscope (provided by instructor)

References

[The Tree of Life Web Project](http://tolweb.org/)

The Tree of Life Web Project - Project that provides information about the biodiversity, characteristics and evolutionary history of organisms.

<http://tolweb.org/>

[Bug Hunter](http://bughunter.tamu.edu/collection/)

Bug Hunter – A guide for collecting, preserving and displaying insects.

<http://bughunter.tamu.edu/>

[Collecting and Preserving Insects](http://www.extension.umn.edu/youth/mn4-H/projects/environment/entomology/collecting-and-preserving-insects/)

University of Minnesota Extension provides instructions on the collection of terrestrial insects.

<http://www.extension.umn.edu/youth/mn4-H/projects/environment/entomology/collecting-and-preserving-insects/>

[The Global Project Sampling Water](http://www.k12science.org/curriculum/waterproj/macros/)

A project to investigate the water quality of streams. Provides instructions for water sampling and the indicators of good water quality.

http://www.k12science.org/curriculum/waterproj/macros/