

# Making an Insect Collection

## Goals

1. Use a classification key to identify organisms.
2. Gain experience in collecting organisms.
3. Become familiar with orders of insects.

## Materials

1. Box to hold collected insects temporarily
2. Ethyl or isopropyl alcohol
3. Clear fingernail polish
4. Killing jar (made from a large-mouth jar with a screw lid or a coffee can with a plastic lid, cotton or a sponge, newspaper, cardboard, ethyl acetate/isopropyl alcohol)
5. Hand lens
6. Materials for displaying insects
7. Mothballs
8. Paper triangles
9. Straight pins

## Procedures

1. Catch as many different adult insects as you can without damaging them. Immature insects, such as nymphs and larvae of insects (grubs, caterpillars, and the like), are sometimes difficult to identify and often require special killing-and-mounting procedures. Do not collect these forms.
2. Kill the insects you catch.
  - Make a killing jar by following the directions below. You can kill many insects by placing them in your killing jar as soon as you catch them. Leave them in the killing jar until they are dead.
  - You can kill beetles easily by dropping them into a small jar of ethyl or isopropyl alcohol (70-80%). Beetles sometimes survive in killing jars for long periods of time.
  - Do not place butterflies and moths into your killing jar. They may ruin their wings by flapping around inside the jar. Kill a butterfly or moth by squeezing firmly on its thorax.
3. Mount the insects.
  - You can mount most insects by sticking pins through the thorax and into a piece of cardboard. Make sure that the insects are suspended in the air on the pins and are not tacked against the cardboard. Be sure that an insect is dead before you mount it.
  - To mount beetles (order Coleoptera), place the pin through the right wing and abdomen, not through the thorax.
  - Mount tiny insects (such as mosquitoes, gnats, and fruit flies) onto small triangles of stiff paper. Touch a triangle of paper to a small drop of clear fingernail polish; then touch the polish on the paper to the insect. Pin the

paper triangles to the cardboard.

4. Protect your mounted insects.
  - Children and friends may want to handle your specimens. Keep your collection away from children and allow friends to look but not to touch. Some insects are very fragile.
  - For temporary storage of your insects, glue a piece of thick, corrugated cardboard to the bottom of a box. (A shoe box works well.) Stick the pins with insects on them into the cardboard.
  - Protect your dead insects from hungry live insects by attaching mothballs inside the collection box. Loose mothballs may damage insects; therefore, put holes in a tiny box filled with mothballs, tape the box shut, and tape it into the corner of the storage box.
5. Identify your insects.
  - Once you have determined the order to which an insect belongs, use books on insects to identify the specimen by common name. Field guides to insects are helpful. Your teacher may be able to suggest specific books to help you.
6. Label and display your insects.
  - Attach the label for each specimen under that specimen by pinning it to the cardboard with the same pin that goes through the specimen.
  - Devise a method to display your insect collection. You may display your insects temporarily on a piece of cardboard, or you may display them in a collection box.
  - Be sure to arrange your specimens by scientific order when placing them in your display.

### Ideas for Catching Insects

1. Look under stones and boards.
2. Collect mushrooms and put them in a closed jar. As the mushrooms dry, insects that were inside will come out.
3. Dig up and turn over a shovelful of earth. Watch it closely and capture the insects that scurry away.
4. Check around outdoor lights at night.
5. At night, put a light over a tub of water with a spoonful of kerosene in it. In the morning gather the insects from the tub.
6. Collect caterpillars and grubs. When they become adults, kill and identify them.
7. Leave an open sandwich outside for an hour or two. Insects will be attracted to the food.
8. Attach an insect net to an automobile and drive along at dusk at about 25-30 mph. The net will trap many flying insects. This method works very well along country roads.
9. Use an insect net to capture flying insects. Disturbing bushes and tall grass will often arouse many flying insects.

## How to Make a Killing Jar

1. Use a large-mouth jar with a screw lid or a coffee can with a plastic lid. Make several jars of various sizes if you plan to catch several insects at one time.
2. Place a half-inch thick layer of cotton in the bottom of the jar or can. (You may use a sponge instead of cotton.)
3. Pour ethyl acetate onto the cotton or sponge. Keep the killing jar tightly closed as much as possible. The more you keep the jar covered, the fewer times you will have to add more ethyl acetate to the cotton sponge. If the sponge or cotton becomes too dry, add more ethyl acetate.
4. Cover the cotton or sponge with cardboard that has holes punched in it and has been cut to fit the inner diameter of the can or jar. This keeps the insects from coming into direct contact with the ethyl acetate.