

## 6100-10 INSECT LAB KIT

Most items in the lab kit can be reused and include the following:

- 100 Insect Pins, size 1
  - 100 Insect Pins, size 2
  - 100 Insect Pins, size 3
  - 12 Insect Spreading Board, foam
  - 12 Forceps, entomological
  - 12 Riker Mount (exhibition case)
  - 12 Rulers, clear, 6 inch
  - 12 Magnifiers, each with 3 2x lenses
  - 100 Glassine envelopes
  - 24 Plastic Storage Vials, 5 dram
- Instructions

Collecting insects can help your students learn about beneficial and harmful insects common to your area. Comparison of the organisms can help them to learn how various insects have adapted to their environment in such diverse ways. They are the most successful group of animals. Please note that most insects are not endangered species. They have a very short life span and the small number you will collect for school activities most likely will not affect the ability of the species to maintain a viable local population.

Insect collection is a great start for teaching your students how to use taxonomic keys to identify organisms. Depending on who you ask, the number of insect species could vary from 1.5 million to 30 million. Over a million species have been identified so far. Your students may be able to identify some of their insects just to the Order level.

**Clear Rulers** and **Magnifiers** are included to help with identification. There are many taxonomic keys and other identification materials available. The Peterson Field Guide Series and the Peterson First Guides are excellent for beginners. There are also many excellent identification keys for beginners available on the internet. Local museums, nature centers and university entomology departments often have reference collections. They may have an expert available to help identify difficult specimens. These would also be good places to visit on a field trip.

Insects are usually delicate and should be handled very gently. Normally the best tools for handling insect specimens are the fingers. A gentle touch is necessary. Exceptions are Butterflies and Moths whose wings can easily lose their delicate scales, stinging insects and very tiny insects. Fine **Entomological Forceps** have been included for these delicate tasks. They can be used on legs and antennae, which are usually the sturdiest parts of an insect.

**Insect Pins** are long, thin, flexible and rust-proof. They usually have a tiny pin-head so the insect is easy to see when mounted. We have included the most commonly used sizes. Pinned insects are usually displayed in a box with a lid such as a Riker Mount or Insect Box.

Small, sturdy insects are usually pinned by gently holding the insect between your thumb and forefinger and firmly pushing the pin through the top surface, usually through the thorax. Ideally the pin is perpendicular to the insect body and the insect is horizontal to the pinning surface. Insects with long legs or curved abdomens can be pinned through the right side of the body.

Leave enough room at the top of the pin so you can pick it up without touching the insect. Usually all the insects in a collection are pinned at the same height. Small labels are often pinned below the insect with information such as the date collected, collector and location. More than one label is often used to avoid taking up too much space in the box.

Butterflies and Moths are usually dried using an **Insect Spreading Board**. Dragonflies and other insects with large, delicate wings are often preserved this way also:

The foam Insect Spreading Board can be used to arrange butterflies and moths in their natural position or in the best position for identification. The board has many grooves to accommodate the various body sizes of these organisms. The grooves are called “body slots”. The body of the insect is gently placed in a body slot and the wings are spread out for drying. The wings should be level with the sides of the spreading board, with the body hanging in the body slot. Sometimes the body is pinned into place. Each forewing is pulled forward until the bottom edge is perpendicular to the insect body. The hindwings can then be pulled into a good position for viewing. The wings are not usually pinned directly. Strips of paper are used to hold the wings in place and pins are used to hold the paper in place. A good paper to use is the glassine paper found in the envelopes. If you must use pins in the wings, only the tips of the smallest pins should be used. It should take about 2 weeks for a fresh specimen to dry. It can then be transferred to an insect box or Riker mount for display.

Insects can be stored and displayed in various ways:

**Riker Mounts** have been included so the students can display the various types of insects they have collected and dried. The soft batting in these boxes allows the students to place the insects in the best position to be viewed through the glass top. Small labels can be set on the batting below each insect. Students can label them with common and scientific names. A larger label in the corner can include information such as collection date, location of collection, collector’s name(s), etc. Pins are not usually needed for a Riker Mount.

**Glassine Envelopes** can be used for storage of dried insects for a reference collection. They can be labeled with common name, scientific name and other pertinent information, possibly including the reference used to identify the insect. Specimens should be thoroughly dried before placing them in glassine envelopes for permanent storage. The envelopes should be stored loosely in a box to avoid crushing.

Clear Plastic **Storage Vials** can be filled with 70% isopropyl alcohol to store soft-bodied insects and spiders. A drop of glycerine is often added to help prevent dehydration if the alcohol evaporates. The vials can also be used to store large, dry insects. Glass vials with evaporation-resistant caps are available for long-term storage (7912-B50).

Insect storage boxes are available that have foam bottoms for pinned specimens (catalog # 6001-B10). Pieces of foam insulation are sometimes used for displaying pinned insects.