

Student Guide

Insect Identification Activity

Introduction:

Insects are common culprits of damage in museum collections. Many species feed on specific materials found in museums such as paper, textiles, or wood. Other insects are attracted by debris or food that may be brought into museum buildings. In addition to consuming the objects, insects leave stains, webs, or shed casings on objects and in casework. A pest problem can be identified by examining the type of damage caused or by catching and directly observing the insects. Insect traps are placed throughout museums and are regularly inspected as part of preventive maintenance procedures. Conservators and collections managers must identify the insects in order to determine risks and choose methods for extermination.

Objectives:

- To create and use a dichotomous key from visual observations
- Classify insects based on external features
- Define binomial nomenclature
- Identify characteristics common to all insects

Supplies:

Pencil and paper

Internet access

Insect glue traps (from hardware store, pest management service may provide)

Stereomicroscopes or hand-held magnifying lenses

Pre- Lab (may be done by teacher or students)

- Place glue traps around home or school to collect insects. Place the traps along walls, in corners, and in or near doorways, garages, basements, etc. These traps do not attract insects, instead they collect those insects that happen to encounter the traps. Therefore, longer collection periods will be most effective.
- Gather images of common insects, using resources such as the following websites:
<http://www.orkin.com/pestcontrol/the-pest-threat/?adid=GO228WEB>
<http://www.museumpests.net/identification.asp>
<http://www.insectslimited.com/insects>

Images should be drawings or photographs that clearly illustrate features of the insect body. The selection of images should include at least six of the following:

- carpet beetle
- fly
- ant
- moth

- silverfish
- termite
- cockroach
- booklouse
- mite
- beetle (wood-boring, cigarette, drugstore, etc.)
- spider (cellar, house, garden, grass, etc.)

Procedure:

Making a dichotomous key:

1. Using the selected insect images, write a question that will divide the insects into two distinct groups based on a single characteristic.
2. Focusing on ONE of your two groups, write another question for a different characteristic so you create two smaller groups.
3. Continue dividing the insects into subgroups and adding questions to your key until there is only one insect in each group.
4. Use internet resources to find the scientific name for each insect.

Using the key:

1. Obtain an insect trap with insects on it.
2. Examine the trap under magnification. For each different insect on your trap, observe the characteristics that you used to make your key.
3. Follow the flow of the key and try to identify the insect(s) on your trap.

Clean up:

Dispose of sticky traps.

Student Name _____

Date _____

Period _____

**Insect Identification
Answer Sheet**

Analysis Questions:

1. What is a dichotomous key and how is it used?

2. List four characteristics that can be used to identify the insects.

3. What two levels of classification are used to write the binomial nomenclature of an organism and how do you correctly write the name?

4. a) What do the insects you identified eat?

b) What sorts of objects in a museum or home would these insects damage?
