

MAKING A DEVICE FOR ATTRACTING AND CATCHING INSECTS

WHAT IS THE BEST WAY TO CATCH A VARIETY OF INSECTS FOR A COLLECTION?

Many people enjoy collecting items, and their reasons for collecting are often as varied as the collections themselves. Some people may collect stamps in hopes of finding one worth a million dollars. Others may collect seashells to remember their trips to the beach. Some may collect rocks or fossils because they enjoy studying the earth. Most collectors also enjoy the challenge of finding unique items for their collection. For most people, the condition of the item is very important. Any damage will usually reduce its worth in the eyes of the collector.

Some people enjoy collecting insects. They may enjoy the great variety they see in insects, or they may love seeing God's wondrous design in members of the insect kingdom. As with other collections, the condition of the insect is very important. However, a particular challenge for insect collectors arises. The insect often tries to avoid becoming part of the collection, so a prized potential possession can be damaged before it is even part of the collection. Is it possible to design a trap that will collect many insects and preserve their beautiful appearance?

PARAMETERS

Note: Record all notes, designs, data, calculations, analyses, and conclusions in your project log.

As you design your insect trap, you must consider how you will attract insects, contain them, and preserve their appearance. Your design parameters are as follows:

- 1 Your teacher will tell you which materials you may and may not use.
- 2 The trap must attract a variety of insects.
- 3 The trap must preserve the appearance of the insects.
- 4 The trap cannot be made of items specifically designed for trapping or collecting insects.
- 5 Your insect trap must be less than 12 in. tall by 12 in. wide by 12 in. long.
- 6 You will deploy your trap within the deployment area and no closer than 5 ft from any other trap.

Key Questions

- » What are good ways of attracting insects?
- » How can insects be trapped without their value being diminished?

PROCEDURE

Planning the Device

- 1 Research insect behavior and methods of attracting insects.
- 2 Become familiar with the available materials.
- 3 As a team, stake out a location within the planned deployment area for your trap.
- 4 Based on your research, discuss different design ideas with your team members.
- 5 Draw your own design. The drawing should include dimensions and a materials list.
- 6 Discuss the different designs with your team members and come to a consensus on the group's design.
- 7 As a team, show your design to your teacher for approval.
- 8 Construct your trap.

Testing the Device

- 1 Install your trap in the location you selected within the deployment area. Record the time you deployed your trap.
- 2 Leave your trap deployed for the time specified by your teacher. Testing should span at least one overnight period.
- 3 After the testing period, examine your trap. Record how many and what types of insects you captured. Note the condition of the insects.
- 4 Make any adjustments to your design to improve performance.
- 5 Reinstall the modified trap in the same location within the deployment area and at the same time of day as the first trial. Record the time you deployed your trap.
- 6 Leave the trap for the same length of time as before.
- 7 After the second testing period, examine your trap. Record how many and what types of insects you captured. Note the condition of the insects.
- 8 Compare results with the other teams. Break down the results according to lure, kinds of traps, and types and number of insects. Each team should also compute the average number of insects and types of insects caught in each type of trap.
- 9 Discuss the results with your team members.
- 10 Write conclusions describing and justifying your results. Suggest possible improvements that you could make to the design.

Data Table

Team	Trap Type	Trial	Total Number of Insects	Types of Insects (Number of this type)
		1		
		2		
		1		
		2		
		1		
		2		
		1		
		2		
		1		
		2		
		1		
		2		
		1		
		2		
		1		
		2		