Culturing Crickets

Live Material Care Guide

Background

Life science classrooms often do not have enough life! Finding safe, clean organisms that are easy to maintain can be a challenge. Crickets are an excellent study organism for illustrating insect life cycles and incomplete metamorphosis. Crickets are most active and noisy at night—this is when we can hear the males "chirping." This noise is made when a male rubs one wing against a row of teeth-like structures on the underside of the other wing (imagine fingernails running along the teeth of a comb). Different pitches are used for courting, fighting, and warning other crickets of danger. Crickets are also excellent organisms for observing and investigating insect behavior.

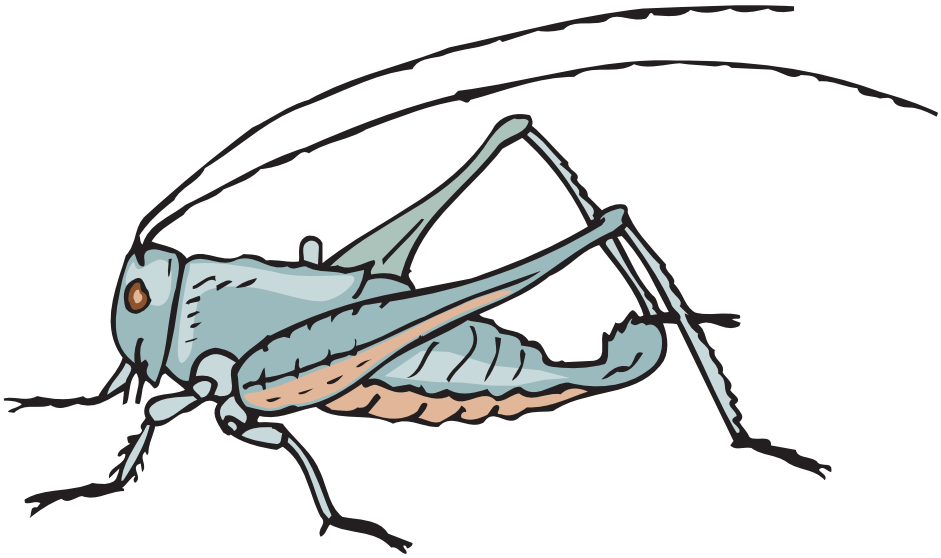

Figure 1. Field Cricket

Housing/Feeding

Crickets are relatively trouble-free and a cricket colony can be maintained indefinitely with little care. The most important feature of the cricket colony is the screen cover that prevents your entire school from becoming a cricket colony! (Although crickets have wings, they do not fly—but can jump up to 30 times their body length!)

The following diagram of an aquarium (10-gallon or larger) shows one type of general setup for a cricket colony. Wooden boxes that have been sealed or plastic boxes with ventilated tops will also work.

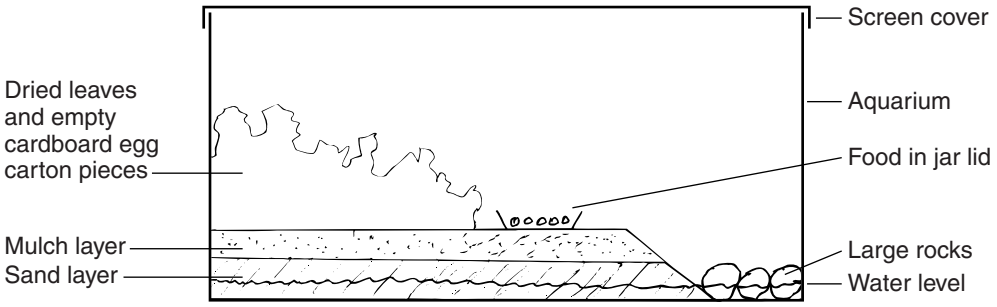

Figure 2. Cricket Colony Setup

Place a 1–2″ layer of fine sand in the bottom of the aquarium. Add a 1–2″ layer of mulch on top of the sand. Top the soil with layers of dried leaves or broken down cardboard egg cartons (other soft cardboard will work as well). These will provide hiding places for the crickets and a supplemental food source. Slope the sand and soil down to a watering area on one end as shown in Figure 2. Add larger rocks to the watering area. Maintain a small "watering hole" at one end and keep the soil moist so that the crickets don't desiccate. If too much water is added—the crickets may get trapped and drown. If a "watering hole" setup is not convenient, a water tray(s)—Petri dish, or plastic lid—with moist paper towels or cotton balls can also be

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used.

Place some pellets of lightly moistened dog food or oatmeal (not instant) in a shallow dish or plastic lid on top of the soil. Slices of apple, potato, pear and/or fresh lettuce can also be used as food.

When the setup is complete, turn your initial population of crickets loose in their new environment. The crickets should live and reproduce in the terrarium setup with minimal care as long as they have moisture and food. Remove any food that becomes wet or moldy. Add water only as needed. The colony should be set out of direct sunlight in an area where students can observe the colony regularly—a display cabinet works great. The screen cover should be secured to the top of the aquarium so it cannot be easily opened.

Problems

Fungi will grow inside of the container if humidity becomes elevated causing death. Extremes in temperature can also wipe out the colony. Replace moist paper towels or cotton balls with new ones if mold begins to grow on them.

Safety Precautions

Always treat live organisms with respect and proper care. Wash hands thoroughly before leaving the lab. Follow all laboratory safety guidelines.

Tips

- Many classroom experiments using crickets have been written. Crickets are especially useful in behavior studies showing mating, territoriality, and aggressive behaviors. Crickets can be placed in smaller containers for student observation. Small, clear fast-food salad containers work well for containing crickets during individual studies. Be sure to provide air holes.
- Using CO_2 sensors, experiments can also be conducted to determine factors that affect respiration rates.
- A "cricket trap" can be helpful when trying to capture crickets from the larger colony. A small box with a slit in the side big enough for a cricket to crawl through can be used as a trap. Place the box in a dry area within the colony.
- In addition to being study organisms, crickets can also serve as a food source for larger classroom animals such as chameleons, frogs, salamanders, turtles, tarantulas, etc.
- Remind students to wash their hands after handling crickets or any living creature.

Disposal

Never release live animals into the local environment. They may harbor pathogen that could decimate the local population. Deceased animals may be disposed of according to Flinn suggested Biological Wast Disposal Method Type IV. Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures, and review all federal, state and local regulations that may apply, before proceeding.

Materials for *Culturing Crickets* are available from Flinn Scientific, Inc.

Catalog No.	Description
LM1164	Crickets, 50
LM1165	Crickets, 100
FB0673	Potting Soil
S0004	Sand, Fine, White, 2 Kg
TC1514	Vernier CO_2 Gas Sensor
TC1500	Lab Pro®

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.