

K-12 Activity

Soil Science Society
of America

Summary

A berlese funnel is a device that is used to extract insects from soil samples. It uses a heat source (in this case a light bulb) to dry the sample, forcing the insects through a screen (optional) and into a jar of preserving fluid.

Materials Needed

- A ring stand and a funnel or:
- A clear soda bottle (empty)
- An empty jelly jar (or a one-pint Mason jar) with a tight lid or cups
- 1 /4" mesh hardware cloth or aluminum window screen (15 X 15) cm
- A pair of scissors
- Masking tape or duct tape
- rubbing alcohol (ethyl) -- available at drug stores
- A lamp

The Berlese Funnel

Learning Objectives/Outcomes:

- To learn about the incredibly diverse invertebrate community found in soil.

Method/procedures

1. Cut the bottom out of the soda bottle and turn it upside down over the jar to make a funnel (or use a funnel).
2. (optional) Bend down the corners of the hardware cloth so it fits snugly inside the wide end of the funnel. If using window screen, cut and pinch numerous slits so larger animals can crawl through. If the leaf litter/humus is large enough you may be able to skip the wire mesh.
3. Collect several handfuls of humus or leaf litter and put them on top of the wire mesh.
4. Pour alcohol into the jar/cup to a depth of 1-2 cm.
5. Carefully set the funnel on top of the jar.
6. Leave the funnel in a warm, quiet place where it won't be disturbed.
7. Set a lamp over the funnel to speed drying (see photo). Keep the lightbulb at least 10 cm away from the funnel.



Complete setup with ring stand, light and funnel.

Discussion Questions

1. Draw, in journals, what they see at the bottom of the jar.
2. Write a description of organisms found in bottom of jar.
3. How large are most of these animals?



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