

**National Science  
Education Standards**

✿ Standard C: *Life Science*— Structure and function in living systems.

✿ Standard C: *Life Science*— Reproduction and heredity

✿ Standard C: *Life Science* — Diversity and adaptations of organisms.



# Investigating Animals in Soil

## OVERVIEW

In this activity students will “stake out” a study plot outdoors and record observations of small animal activity. Students will rotate roles including: Mapmaker, Recorder, Classifier, Counter/ Estimator. They will also collect samples for close investigation back in the classroom

## OBJECTIVES

Students will:

1. Describe signs of animal activity in the soil.
2. Describe and name some animals found in local soil habitats.

## SUBJECTS

Science, Language Arts, Art

## VOCABULARY

Adaptations, domesticated, habitat, insects, larvae, mammals

## TIME

90 minutes

## MATERIALS

For each group OUTDOORS: coffee can or similar container with holes in the bottom, plastic bag, 4-meter lengths of string, copies of the “Soil Animals Data Sheets I and II” (see following pages), paper, pencil.

INDOORS: microscope or hand-lens, field guides if available, graduated cylinder, white tray. Field guides or Alaska Ecology Cards.

OPTIONAL: light, funnel, flask for Berlyse Funnel (see following).

## ACTIVITY

1. *IN CLASS:* review the five kingdoms. Remind students there are many members of the animal kingdom that are very small and seldom seen by humans. Challenge the class to list some tiny animals. (*shrews, mice, weasels, insects, snails, spiders, worms, etc.*)

2. Discuss what kind of habitat or environment would be safe for very small animals. Lead the discussion toward life underground. *Some animals are adapted to spending most of their life in the dark, living on other animals or nutrients found in the soil.*

3. Explain that the students will become scientists, looking for animals and their signs in the soil. Show students pictures of **larvae**, casings, and other evidence that they may find in the soil.

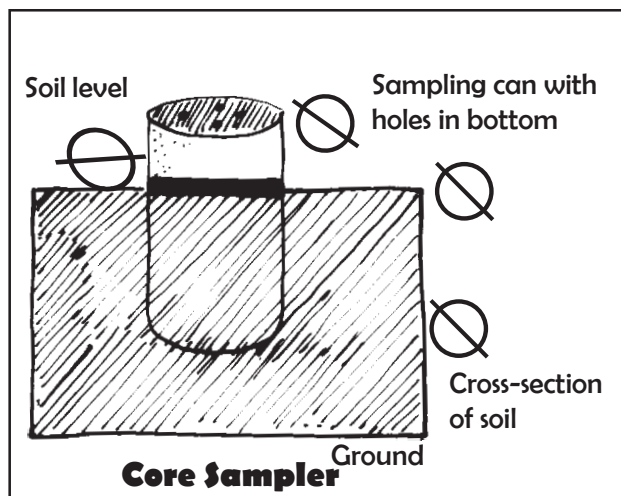
4. *OUTDOORS:* direct each group to “stake out” a square study plot, 1-meter by 1-meter, using their string as the boundary. Challenge them to examine the area carefully. *Look for small holes or tunnels dug into the ground, droppings, or leaves that seem to have been bitten by a small animal.*

5. Each group has the following duties that may be rotated: Mapmaker, Recorder, Classifier, Counter/Estimator.

6. The Mapmaker draws a map of the plot, noting large rocks, large plants or trees, hills, and depressions.

7. The Recorder writes down evidence of animals that the group finds, noting the location on its plot map. When soil animals are found, the Recorder includes the information on the “Soil Animals Data Sheets I and II.”

8. Using an empty can as a sampling tool, one member of each group presses the open end into the soil until the can is at least half buried. Turn the can right side up and dig out the soil marked by where the can was, filling the can half full.



9. Empty the soil into a plastic bag for transport to the classroom (*since the can has holes in the bottom*).

10. *IN CLASS,* each group places its soil in a tray and sorts through it, looking for animals, larvae, or any other evidence of life in the soil.

11. All members of the groups draw the organisms they find.

12. Challenge students to identify their creatures by using field guides. The Classifier keeps track of the kinds of creatures so that the same animal is not named twice. If field guides or the *Alaska Ecology Cards* are unavailable, ask students to make up their own descriptive names for each species.

13. Wrap-up the investigation with a class discussion concerning the **habitat** of these small animals. What special **adaptations** do soil animals have that help them to live on or in the soil?

## CREDIT

This activity is adapted with permission from Alaska Wildlife Curriculum. AWC is a program of the Alaska Department of Fish and Game, go to [www.wildlife.alaska.gov](http://www.wildlife.alaska.gov) for more information about this environmental education curriculum.





Name \_\_\_\_\_

**Student Page**

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## Soil Animals Data Sheet II

### ANIMAL DRAWINGS

Animal # \_\_\_\_\_ Name \_\_\_\_\_

Animal # \_\_\_\_\_ Name \_\_\_\_\_

Animal # \_\_\_\_\_ Name \_\_\_\_\_

Animal # \_\_\_\_\_ Name \_\_\_\_\_

Animal # \_\_\_\_\_ Name \_\_\_\_\_

Animal # \_\_\_\_\_ Name \_\_\_\_\_

**Investigating Animals in the Soil**

America's Rain Forests