# INV. 1 ACTIVITY—SEARCH FOR INSECTS 

**Review**

Recently when learning science at home, you may have read an article called "Animals and Plants in their Habitats" in the FOSS Science Resources eBook. In it you learned that a naturalist is a scientist who studies plants and animals. What naturalists find out, is the natural history of the plants and animals.

**Investigation**

If you have access to technology, go to FOSSweb and look at the Interesting Insects Slideshow. Look at the images and look at the structures, the body parts, of the insects you see. What do they have in common? If you do not have access, here are three of them:

A green beetle

A walking stick

A luna moth

What are some of the structures of these insects? Discuss them with your parent.

All insects wear their skeleton on the outside like a suit or armor, it is an exoskeleton. They also have six legs, antennae, and a head, thorax and abdomen. Sometimes these parts are hard to see. Also, many insects go through several stages: egg, larva, pupa, and adult. The mealworm and the ladybug are two examples that go through a complete metamorphosis that have these four stages. Other insects have an incomplete metamorphosis—with the stages of an egg, a nymph (a baby that looks like a small version of the adult), and an adult.

Together with your guardian, you will go outside and search for what you think are insects. You will need to look carefully at the organisms' structures to try and decide. Head outside to your selected outdoor space with a notebook and pencil, and perhaps a container and spoon. You will likely find insects to observe in leaf litter (leaves on the ground in big clumps), under rocks, under things that have been lying around for a long time (sometimes a garbage can, a hose or flower pot) or under logs. You could also create a pit-fall trap.

**The focus question: What makes an insect an insect?**

**Follow this safety rule: If you don't know what it is, don't pick it up.** Search for small animals for 15 minutes. See if you can find ants, isopods, worms, or other harmless organisms to collect and observe. When you are ready to collect, use the spoon to transfer an organism to your container. If you found the insect on a leaf or on wood, put some of the leaf or wood in the container with it. Keep the container closed and out of the sun as it will heat up rapidly. Collect one or two organisms for temporary observation.

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You could also make a pitfall trap by digging a small hole using a spoon or trowel. Make the whole big enough for a cup to fit in so that the top lines up with the surface of the ground. Put a piece of apple or carrot in the cup and some leaves. Visit the cup every 24 hours to see what fell inside. Animals will not be able to get out without your help, so check it regularly.

In your notebook, draw one animal that you think is an insect. Draw a scientific drawing of the organism and explain why you think it is an insect. "I think it is an insect because…"

Record the focus question in your notebook and revisit after the outdoor exploration. Explain the natural history of that insect—what do you know about it based on where you found it and what you observed.

# INV 1. ACTIVITY—ART AND SCIENCE WITH INSECTS

## Investigation 1: Mealworms

### Art and Science Extensions

#### Make a three-dimensional beetle

There are hundreds of thousands of different kinds of beetles in the world. Some of these are shown in *FOSS Science Resources*, and beetles are featured in children's books on insects. Let students select a beetle to model in three dimensions, following these steps.

a. Cut two identical general shapes of the beetle from large sheets of paper.

b. Staple most of the way around the two shapes.

c. Glue on legs, head, antennae, and so forth.

d. Paint the beetle.

e. Stuff it with crumpled paper and staple it shut.

Display the beetle in your home .

#### Make an insect collage

Collect magazines with pictures of insects (children's science magazines, such as Ladybug, Spider, National Geographic World, or gardening magazines may be good resources). Have students create an insect collage representing a variety of insects.