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# Introduction

Insects are found all over the world, even in Antarctica. They have been on Earth at least 400 million years and appear to be in no danger of disappearing in the future. There are more insects and more kinds of insects than all other animals on Earth which are visible to the naked eye. Insects have been called man's worst enemy, but this is not true. It is important to respect their role in the balance of nature and know that most life on Earth could not exist without them. Insects are an important food source for many animals, they are pollinators of many commercial plants, they are garbage collectors and they are silk weavers. They are gems of natural beauty and a constant source of interest.

Insects have an outside skeleton (*exoskeleton*), six legs, and three body parts. Compare the physical features of the insect to crabs and lobsters, and you can see that they are related. Insects also may have one or two pairs of wings attached to the middle section of the body (*thorax*). They usually have two sets of jaws, two kinds of eyes (simple and compound) and one pair of antennae. There are exceptions to these physical features, however. Some insects have a thorax and abdomen which seem to run together. Immature stages (*larvae*) of many insects look like jointed worms with six real legs and perhaps some extra false ones.

Another confusion comes about due to animals which look like insects. These include spiders and scorpions, but they have too few body parts (two) and too many legs (eight). Crustaceans (e.g., crabs, lobsters, and shrimp) also look like insects but may have five pairs of legs and two pairs of antennae. Sowbugs and pillbugs are land crustaceans. Centipedes and millipedes have many segments to their bodies with one pair of legs (in the case of centipedes) or two pairs (in the case of millipedes) attached to each segment.



The study of insects begins with a hunt on the school grounds and a pretest to separate insects from noninsects. As students continue the activities in this section, they will learn about insects by raising mealworms, ants, butterflies, and silkworms in the classroom. As a culminating activity, students will create imaginary insects for their own insect zoo.



# Going on an Insect Hunt

## *Gathering Specimens*

**Overview:** *Students will gather specimens of insects and noninsects.*

### **Materials**

- 8 cm x 13 cm unlined file cards
- 2.5 cm cube plastic bug boxes with a magnifying lid
- snack-sized resealable bag
- parent letter for insects (page 5)
- overhead projector

### **Lesson Preparation**

- Take a walk around the grounds near the school, searching for insects and noninsects. Look in hidden places such as on plants, under fallen leaves, and along tree bark.
- Map a route for the students to take as they search for specimens during this activity.

### **Activity**

1. Distribute a file card to each student and ask each one to draw an insect on it. Tell students to make their pictures as large as the card. Let them know that you want them to show as many details of the insect as they can, including the shapes of the body parts and legs.
2. Have the students show their drawings to others and point out the details, such as legs.
3. Tell the students that they are going on an insect hunt around the school ground. Take them to the search area and distribute a magnifying box to each student. Explain that they are to find only one insect to place in the box and then bring it to a central location you establish. You may wish to use a signal to call them back together after a set time.
4. When the students have each found an insect, gather them together and look at what they have found. Let the students exchange magnifying boxes to look closely at their insects. If any have placed noninsects in their boxes, do not correct them at this time.

### **Closure**

- Return to the classroom and select examples of the insects to see enlarged on the overhead projector. Place an insect in a resealable bag on the projector stage. Have students point out its physical features (e.g., number of legs, body parts and shape). (*Note:* The heat from the projector will affect the insect, so it should not be subjected to the light for long periods.)
- Have the students draw their insects on the other side of the card they used at the beginning of the class period. Collect these cards to use as assessment at the end of this lesson series.

### **Homework**

Send home a copy of the parent letter with a small resealable bag stapled to it.