

INTERESTING AND IRRITATING INSECTS

SUBJECT: Science
DURATION: 1 hour (each activity)
LOCATION: Classroom and Outdoors

OBJECTIVES:

To teach students about insects, their structure, behavior, and usefulness.

MATERIALS:

hand lenses	jars	wooden beads	spools	clothespins
pipe cleaners	sequins or beads	glue		

METHOD:

Discuss with the students the parts of an insect. Explain the role insects play in the **environment**. Have students examine insects using hand lenses. Students will also build their own insects and write stories about them.

BACKGROUND:

Insects, whether we like it or not, make up over half of the known living things on this planet. They are, at times, considered great pests, but their **ecological** importance is vast. Not only do they represent a huge proportion of the food source for other animals, but their **pollination** services are invaluable. Many vegetables, flowers, trees, and other plants are pollinated by insects. Birds consume gigantic numbers of insects, as do fish, reptiles, amphibians, and certain mammals. Insects also create products that people use: silk, honey, beeswax, and shellac.

What exactly is an insect? It is a cold-blooded **invertebrate** of the phylum arthropoda, class insecta. From the time that insects begin life as eggs, they go through many changes, some gradual, others radical. Each change is referred to as a **metamorphosis**. Once the insect becomes an adult, it has three major body parts: the head, the thorax (the middle body part), and the abdomen. Three sets of legs attach to the thorax. Spiders, which have only two body parts and four pairs of legs are not insects. Many adult insects have one or two pairs of wings, which are also attached to the thorax. Most have antennae which are attached to the head.

In immature stages, insects come in a variety of shapes and sizes and are much harder to identify than adults. There are eight common groups of insects to which most species belong: bees, wasps, and ants; flies, mosquitoes, and gnats; moths and butterflies; beetles; crickets, locusts, and grasshoppers; dragonflies and damselflies; aphids, cicadas, and leafhoppers; and (true) bugs, backswimmers, and water striders.

SUGGESTED PROCEDURE:

- 1) Discuss insect structure with the students. Draw and identify the parts of an insect. Include the three body parts: the head, the thorax (in the middle), and the abdomen. Insects have three sets of legs, which attach to the thorax. Wings (either one or two pairs) also attach to the thorax. Eyes and antennae attach to the head. Ask the students to give examples of insects, and discuss the good things that insects do.
- 2) Biting and stinging insects can be extremely troublesome to human beings. One thing to keep in mind is that we are not the only animals plagued by these creatures in search of blood - all mammals are affected. Certain methods help reduce the amount of biting and stinging that actually take place. When going into areas that have heavy concentrations of biting insects, wear lightweight, long sleeved shirts and long pants. Spraying bug repellent on shoes, socks, and cuffs of pants helps to discourage chiggers. It is best to spray bug repellent on clothing instead of skin. Hats are not only good sun protection, but they also offer shielding from irritating insects.
- 3) Have the students go on an insect hunt. Look around the school yard for different and interesting insects. Avoid stinging and biting insects. Observe the behavior of insects. What are some of the things the students see the insects doing? Carefully capture a couple insects and put them in separate jars. In the classroom, the insects can be viewed directly through the jars. Hand lenses can be used to enlarge them. Have the students pass the jars around, and notice the basic parts of the insect that were discussed earlier: head, thorax, abdomen, legs, wings (if present), antennae (if present), and eyes. Can any of the insects' mouthparts be seen? Can any of the insects be identified as to the groups they belong to? Have the class bring the insects back outside for a release ceremony.
- 4) Have the students build their own insects (real or imaginary) using any or all of the following items: large wooden beads, empty spools of thread, wooden clothespins (especially the single piece type), pipe cleaners, sequins or beads (for eyes), and glue. Many other items could be used also. The wooden parts make great bodies, and the pipe cleaners can be used to attach body parts and to make legs, wings, and antennae. Have the students write a short story about their insects. Information that could be included in the stories would be food preference, habitat, interesting features, and survival skills. Did each student name his or her type of insect?