

Bug Fun

Subject Area: Science

Unit Title: Insects

Grade Level: 4th & 5th grade

Objectives: Each student will become aware of the diversity and abundance of insects in Colorado.

Colorado Content Standards to be covered:

SCIENCE:

Standard I - Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.

Standard III - Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.

Anticipatory Set: Go over the “KWL” handout on the last page and brainstorm with your students, having them fill in what they already know about Insects (first column “K”), what they want to learn (middle column “W”). After the lesson, they can fill in the last column with what they learned (“L”).

Materials:

- Containers (cups)
- Bait (Fruit, Bread, Meat, etc.)
- Boards
- Small rocks

Input:

There are hundreds of different kinds of insects in Colorado. Many are beneficial or do good things for people; others are annoying and bug people. Some insects can even be dangerous or harmful.

Many insects eat other insects. An animal that eats another animal is called a predator. The animal that gets eaten is called the prey.

Ladybugs (or lady beetle bugs) are fun to look at and play with. They are also good to have around because they eat some of the other insects we consider pests. Ladybugs are insect predators.

Ladybugs and their larvae can eat large numbers of small insects such as aphids and mealy bugs. Aphids are harmful insects. Aphids breed in large groups or colonies and eat plants. They can destroy plants such as vegetables, fruit trees and pine trees. It’s a good thing that there are ladybugs that prey on aphids and eat them.

Some small black beetles eat spider mites. Spider mites can kill and damage corn crops and grass in yards. They are tiny—about the size of the head of a pin—but the black beetles find them and eat them.

Green lacewings are also predator insects. Four to five days after they lay their eggs, the larvae hatch. These larvae, sometimes called aphid lions, eat small caterpillars and beetles in addition to aphids and other insects.

Other predator insects include the larvae of flower flies. Larvae are the wingless, wormlike form of insects before they go through metamorphosis. Flower flies look similar to bees or yellowjackets, but they

don't hurt people and do like to eat pest insects.

Some red and black stinkbugs eat caterpillars and potato bug larvae. Minute pirate bugs, ambush bugs, and assassin bugs eat spider mites and insect eggs in yards and gardens. Ground beetles eat almost any kind of bug found on the ground. Hunting wasps are also predator insects that eat insect pests and caterpillars.

All spiders eat insects including flies. Some spiders catch their prey in a spider web. Other spiders, such as wolf spiders, crab spiders and jumping spiders do not build webs, but hunt their prey on soil or plants. They like to eat beetles, caterpillars, leafhoppers and aphids.

Predator insects can be used to help control pest insects in yards and gardens. Some people even buy them especially for this purpose.

Checking for Understanding: At the end of this section choose one of the following for a quick check: ask the students to partner share and think, pair and share, do a quick 3 word write up as an exit slip, do a quick sketch or give each other a quick thumbs up or down to check for understanding. Determine the level of mastery for each student and provide individual remediation as needed.

Procedures/Activities:

Bug Hunt

1. Place students in groups of four or five and give each group a Styrofoam cup.
2. Have the students punch a few small holes in the bottom of the cup for water drainage.
3. Next, allow the students to dig a hole in the soil and set the cup into it with the top of the cup even with the soil surface.
4. Then have students choose from a selection of bait that they feel insects might eat. The bait should be placed in the bottom of the cup.
5. Place a few small rocks on either side of the cup and balance the board on top of them. This will create a lid for the trap, but will still allow the insects to crawl under the board and fall into the trap.
6. The following day, have students empty the contents of their cups into another container to count the number of insects and other organisms that they have collected.
7. Have students compare their insects with those of the other groups.

Closure:

Discuss with students the variety of insects that have been caught and what types seem to be attracted to what foods. Ask students to make drawings of each different type of insect that they have caught and compare them with the insects in the other groups. Review and clarify the key points of the lesson by filling in the "L" column on the "KWL" handout. Brainstorm and discuss any new ideas or surprises the students may have.

from the Florida 4H Bug Club at <http://bugclub.ifas.ufl.edu/teachers.htm>

Handout

K (Know)	W (Want to Know)	L (Learned)