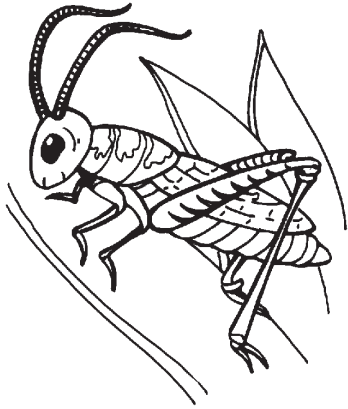


# BUGS AND OTHER INSECTS



## MATERIALS

- baby food jars or plastic containers
- chenille stems
- crayons or markers
- insects
- magnifying glass
- mirror
- paper plates
- patterns (pages 45-46)
- paper hole punch
- scissors and glue
- stapler
- string

## BOOKS TO SHARE

- *Bug Safari* by Bob Barner (Holiday House, 2004)
- *Bugs Are Insects* by Anne Rockwell (HarperCollins, 2001)
- *Hungry Hoppers: Grasshoppers in Your Backyard* by Nancy Loewen (Picture Window Books, 2004)
- *Insects* by Melissa Steward (Children's Press, 2001)

## Background Information

What is an insect? An insect is an invertebrate that has three main body parts known as the head, thorax, and abdomen; six legs (three pairs) for jumping, walking, and/or balance; two antennae for sensing and tasting; and an exoskeleton. Not all insects have wings, so this trait is not a main characteristic.

Many adult insects use their legs basically for walking and keeping their balance, while others have more specialized features. Grasshoppers have strong, large back legs for leaping and jumping. Flies have tiny suction cups on their feet to help them stick to surfaces making it possible to walk up walls or even upside down. Water striders use their tiny feet and long legs to skate on top of water in ponds. Bees have special pouches on their legs for carrying food.

Insects eat everything from leaves to other insects, but they do not have teeth like humans. Instead, they have different kinds of mouthparts. The butterfly has a long, straw-like mouthpart called a *proboscis*. It uses the proboscis like a straw to suck up nectar from flowers. Grasshoppers use their jagged jaws for cutting off small parts of leaves. Mosquitoes have long, spear-like mouthparts that they poke into people or other animals.

If you would like to learn more about insects, locate a good reference book. For example, *Everything Bug: What Kids Really Want to Know About Insects and Spiders* by Cherie Winner (NorthWord Press, 2004) offers a lot of useful information.

## Objectives

- Recognize an insect by its three main body parts and three pairs of legs
- Observe how insects move by walking, flying, or jumping
- Identify different mouthparts of insects

## Getting Ready

- Several days before beginning this activity, collect live and dead insects around the school. If possible, collect one insect for each child to observe or invite children to help out by bringing insects they have collected that are not dangerous to school. Keep each bug in a separate baby food jar or large plastic container with airholes. *Note: Direct young children not to pick up insects unless an adult has given them permission. It is important to inform children about insects that sting or bite.*
- Make copies of the patterns on pages 45 and 46 for each child.

## EXPLORATIONS ● ● ● ● ● ● ● ●

## Looking at Insects

*What is an insect?*

Give each child a jar with a bug inside. Have the children look carefully at their bugs and then ask them to think about what all of these animals have in common. List the children's ideas on chart paper. (Some insects do not have wings. Some do not have eyes. However, all insects have an exoskeleton that covers their three main body parts and three pairs of legs.) Discuss how insects do not have bones. Have the children feel the bones on the insides of their own arms. Talk about how all of our bones together make up our skeletons. Explain that insects have hard outer shells called *exoskeletons*. An insect's exoskeleton is not as hard as a person's skeleton. (This is why insects squish so easily.) Continue the lesson by comparing the insects' bodies, looking for similarities or differences in color, size, and shape. Also look for specific markings, such as bright colors and spots, or specialized adaptations, such as a double set of wings, extra-armored bodies, and so on.

Extend the lesson by reading aloud the book *Bugs Are Insects* by Anne Rockwell to help children understand the difference between insects and other creepy-crawly bugs, such as spiders and centipedes.

## Bugs on the Move

*Why do insects need six legs?*

How do insects move? Have the children take a look at their own legs and then study the legs of the insects they are observing. Ask, "How are the legs of insects different than yours? Can you jump like a grasshopper? Can you walk up a wall like a fly?" Discuss and record the children's observations on chart paper.

## Where Are the Teeth?

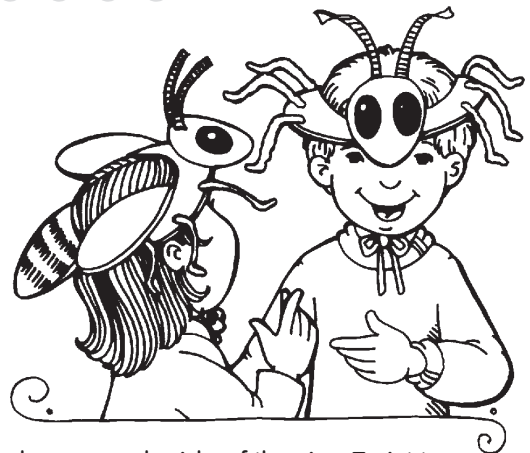
*How do bugs eat?*

Have the children look at their own teeth in a mirror. Talk about how their front teeth are thin and flat, and can be used for biting and tearing food. Point out how they chew and grind their food with the big, bumpy teeth (molars) in the back of their mouths. Now use a magnifying glass to look at the mouths of your insects. *Question to investigate:* How can you find out what kinds of food the insect eats? Allow children to test their ideas.

## CROSS-CURRICULAR FUN ● ● ● ● ● ● ● ●

## Bug Hats

1. Look at the pattern pages. Choose one of the heads for the hat and then color and cut out the pieces.
2. Cut out the middle of a paper plate, leaving a 1 1/2 in. (38 mm) rim around the outer edge.
3. Punch four holes on each side of the paper-plate rim.
4. Glue the head of the insect to the paper-plate rim (see the illustration on this page). Attach the antennae to the head.
5. Glue the abdomen to the opposite side of the paper plate and add wings, if desired, by attaching pieces of tissue paper.
6. To make the legs, thread a chenille stem through each of three holes on each side of the rim. Twist to secure the six legs.
7. Tie a 12 in. (30 cm) length of string in the remaining hole on each side of the "thorax."
8. Place the hat on the head and secure by tying the ends of the string.



## CROSS-CURRICULAR FUN (CONTINUED) ● ● ● ● ● ●

## Insects Olympics

Everyone can wear their bug hats while participating in these fun activities:

- **Grasshopper Hop**—Mark a starting line and see how far you can jump.
- **Mosquito Sip**—Use a drinking straw for a proboscis. Pick up a 1 in. (25 mm) square piece of paper with the straw and carefully carry it home to the starting line.
- **Dung Beetle Roll**—Dung beetles roll dung (elephant poop) around to create large balls and then use them for nests for their babies. Mark a line on one side of the playground. Roll a ball to the other side of the playground using only your nose.
- **Ant Life**—Ants are very strong and can lift many times their own weight. Grab a block or toy and lift it high over your head. Continue lifting and counting until you feel tired.
- **Inchworm Races**—Travel from one side of the playground to the other by moving like an inchworm. After positioning your hands and feet on the ground, crawl forward on your hands only. Now walk with your feet forward until they meet up with your hands. Repeat the process until you have crossed the finish line!

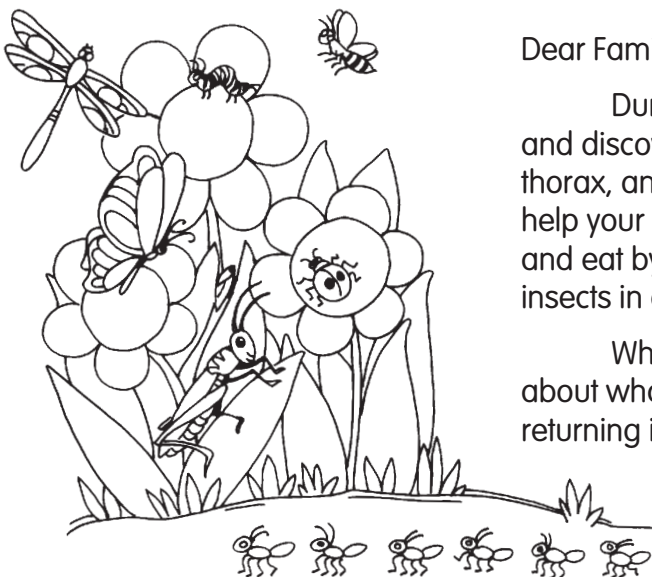


Name \_\_\_\_\_

Date \_\_\_\_\_

## Take-Home Activity

## Looking at Insects



Dear Families,

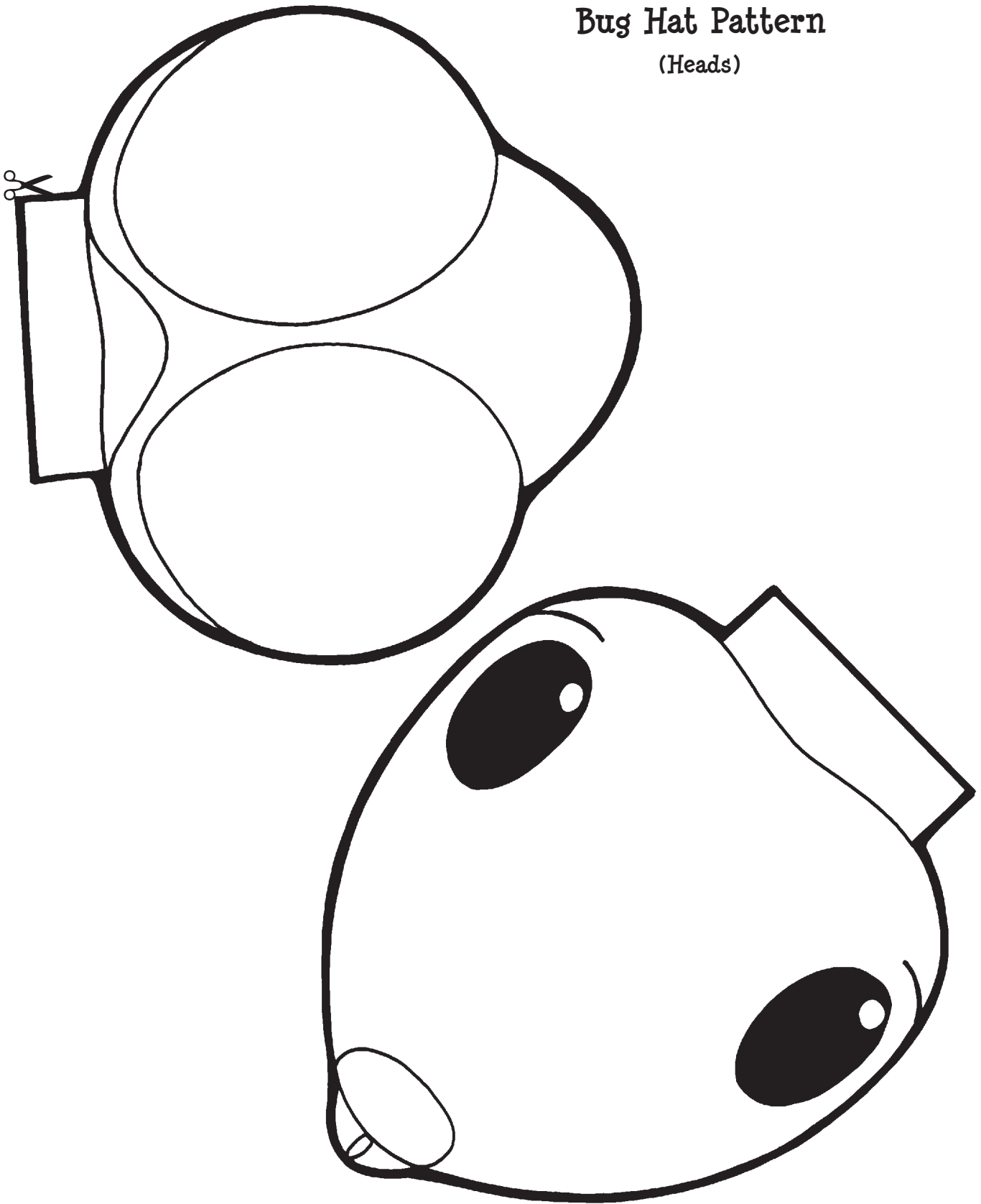
During science time today, we talked about insects and discovered that they have three distinct body parts (head, thorax, and abdomen) and six legs (three pairs). Please help your child do more exploring about how insects move and eat by watching those that do not sting or bite. Look for insects in a garden, your backyard, or a nearby park.

When finished, have your child write or draw a picture about what was discovered on the back of this paper before returning it to school.

Thank you for your assistance,

## Bug Hat Pattern

(Heads)



## Bug Hat Pattern

(Antennae and Abdomen)

