

# Bees and How They Live

## Synopsis

This program takes the viewer into the darkest recesses of a beehive to observe the fascinating and complex activities of a honeybee colony.

Why should people be interested in honeybees? Because these hardworking insects make it possible for farmers to grow many of the fruits and vegetables we depend on for food.

Honeybees also provide us with honey and beeswax, a substance used in making candles, furniture, floor wax, inks and more.

Honeybee society is composed of three castes; the queen, who does nothing but lay eggs; workers, who build the hive, care for the young, and gather nectar and pollen for food; and drones, who mate with the queen.

Worker bees may travel up to 50 miles (80 km) per day to search for flowers, the source of the nectar and pollen they depend upon for food. As they gather their food, bees spread pollen within flowers, and from one flower to another, a process called pollination. Pollination is necessary for the production of seeds and fruit.

Bees store their pollen and nectar in hexagonal chambers called cells, which are made from beeswax. Cells also provide a nursery for the young. The queen lays each of her eggs in a separate cell, where they hatch as larvae and go through complete metamorphosis, emerging as adult bees.

Bees communicate by touching, exchanging food and dancing. This enables them to work

cooperatively, from the simplest tasks to the most complex.

Because of its important role in agriculture, the honeybee is truly one of mankind's most important links with nature.

## Questions to ask before viewing

- Are bees of any use to people? What do we already know about bees, both positive and negative? (Call for ideas and list them on the chalkboard for reference after viewing the program.)

## Questions to ask after viewing

1. What is the main value of honeybees to people? (Bees have a vital role in food production. They spread pollen from flower to flower, a process known as pollination. This process fertilizes flowers so that a plant may produce fruits or vegetables.)
2. What do honeybees eat? (Bees eat pollen for protein and honey for carbohydrates.)
3. Where do honeybees store their food, and why? (They store their food in little chambers called cells, so they will have food during winter.)
4. What shape are the cells? What is the advantage of this? (Cells are hexagonal, or six-sided; they fit together perfectly so that no space is wasted.)
5. What are cells made from? (Beeswax.)
6. Where does beeswax come from? (Beeswax comes from glands on bees' abdomens.)
7. What do people use beeswax for? (It is used in the making of candles, furniture, floor wax, inks and more.)

8. What do bees use to make honey? (They use nectar gathered from flowers, and enzymes from their own glands.)
9. How do bees extract nectar from a flower? (They extract nectar with their tubelike tongues.)
10. What are the three castes of bee society? (Queen, worker and drone.)
11. What does the queen do? (She lays eggs to populate the colony.)
12. Where does she lay her eggs? (Inside the cells, one egg per cell.)
13. What do worker bees do? (Workers, build, clean and guard the hive; feed the young; gather nectar and pollen; and make honey.)
14. What do the drones do? (Drones mate with the queen.)
15. What are the four stages of a bee's life cycle? (Egg, larva, pupa, adult)
16. What is the term for this type of life cycle, with its radical changes? (Metamorphosis, a word that derives originally from Greek, meaning "changing form.")
17. What does a larval bee look like? (A tiny worm that eats voraciously and grows quickly.)
18. How do bees communicate with each other? (By touching, dancing, exchanging food.)
19. Why do bees need to communicate? (They communicate in order to work cooperatively on simple and complex tasks.)
20. How do bees cool the hive? (By fanning it with their wings, and with water they have brought in from the outside.)

## Additional Activities

- Visit a beekeeping farm; interview a beekeeper for the school newspaper.
- Have the class discuss additional questions about honeybees, such as: Are bees dangerous? What occurs in pollination? Which plants require bee pollination and which do not? What attracts bees to flowers? Where do queen bees come from? Cooperative groups may research the influence of bees in literature, music, art and fashion.
- Pretend you are a worker honeybee. Write a diary, telling what life is like inside and outside in the hive.
- Write a humorous (but factual) poem titled, "Bees", paraphrasing Joyce Kilmer's "Trees". Begin the poem, "I think that I shall never see/An insect useful as a bee...."

8393 Insects: Reproduction and metamorphosis  
Animals and How They Live Series

**Length**

- 15 minutes
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**Subject area**

- Life Science, Agriculture
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**Audience Levels**

- Intermediate-Adult
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**Catalog Number**

- 8631

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AIMS  
Discussion Guide

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### Objectives

- To underline the vital role of honeybees in producing the food we eat (pollination).
- To see how bees work cooperatively to sustain their colonies.
- To show bees as they go through the four stages of their life cycle: egg, larva, pupa and adult.
- To observe bees as they gather nectar from flowers and turn it into honey.
- To show how bees communicate.

### Related titles in the AIMS collection

4089 The Beekeeper

