

Where Would We Be Without Honey Bees?

Honey bees are very important to people. They pollinate many of the food crops we eat. About $\frac{1}{3}$ of our crops require pollination to produce fruits and seeds. Honey bees also make delicious honey.

In California, honey bees live in colonies of around 50,000 bees. There are three types of bees in a colony:

Drones – males who mate with a young queen in flight.

Workers – females who gather nectar to make honey, guard the hive, build honeycomb, and care for eggs and larvae. Most bees in the colony are workers.

Queen – lays eggs which hatch into larva then pupate into adult bees. There's only one queen in a colony.



Technology

Did you know that honey bees have to visit two million flowers to make one pound of honey? Help them out by planting “bee friendly” flowering plants in your yard.

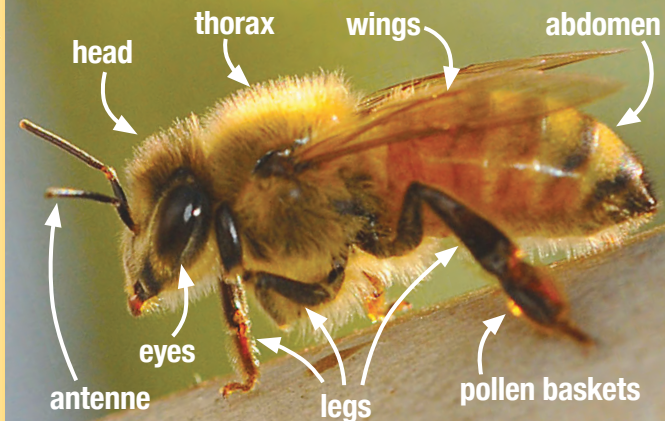
Download the BeeSmart Pollinator Gardener app for your smart phone to help you choose plants that will attract pollinators.

BeeSmart™
Pollinator Gardener



Activity

Build a honey bee model using materials such as empty toilet paper rolls, glue, yellow paint, electrical tape, pipe cleaners, construction paper, and other creative materials. Use the photo to identify and label the parts on your model. You may also add a stinger and a proboscis to your model. Only female worker bees have stingers. The proboscis is a long, straw-like tongue that the bee uses to collect nectar from flowers. Take your model home and explain what you have learned about honey bees to your family or friends.



Activity

On a separate piece of paper, draw the following steps to show how honey bees help pollinate a cherry tree.

1. Honey bee lands on cherry blossom to gather nectar.
2. Pollen from the blossom's anthers rubs off and sticks to the honey bee's fuzzy body.
3. Honey bee flies to another cherry blossom to collect more nectar.
4. As honey bee is gathering nectar, it accidentally brushes against the sticky stamen from a different variety of cherry blossom and leaves some pollen behind. This is called cross pollination.
5. The pollinated blossom develops into a cherry.

Activity

Each person in the U.S. consumes an average of 1.1 pounds of honey each year. In order to produce one pound of honey, honey bees have to fly approximately 55,000 miles to gather nectar from flowers. How many miles do honey bees fly in order to make enough honey for all the people who live in your house?

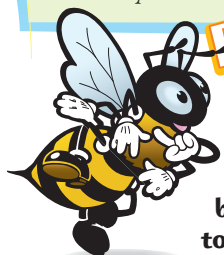


Beekeepers raise bees to produce honey, beeswax, pollen, royal jelly, and to provide pollination services for farmers. Some beekeepers also raise queen and bulk bees to refill empty hives.

In California 1.6 million colonies of honey bees are needed each spring to pollinate just one crop – California almonds. This takes nearly 67% of the honey bee colonies in the United States! Colonies of honey bees are trucked thousands of miles to pollinate crops so we can enjoy many foods including cherries, almonds, berries, melons, apricots, kiwifruit, pears, sunflowers, and cucumbers. Beekeepers use wooden rectangular boxes for hives, each containing around 15,000 to 20,000 bees.

Did You Know?

When worker bees find nectar, they fly back to the hive and do a type of bee dance to let the other bees know which direction to fly to find food.



Activity

On a separate piece of paper, write a paragraph that explains how honey bees are involved in making a delicious treat of strawberry ice cream.



Photos courtesy of Kathy Keatley Garvey, UC Davis Dept. of Entomology and Nematology

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