

How Did the Honeybee Arrive Here?

Originally native to Eurasia, honeybees were brought to North America by the early colonists in the 1620's for their wax and sweetening properties. Their scientific name is *Apis mellifica*, but we commonly call them the European honeybee or the western honeybee.

Upon arrival, there were native bees that existed here in the United States, of which there are some 4,000 species. The best known native bee is the bumblebee. These and the honeybees coexist although there can be competition within limited areas.

Honeybees are now found on every continent except Antarctica.



What Is Their Role?

Although butterflies and other flying insects, along with birds and animals, all help in pollination, the honeybee is responsible for 80-90% of worldwide pollination. Their cross-pollination is vital to the production of food and medicine and lesser recognized industries such as construction.

Honeybees Are Social Insects

The honeybee colony has a clearly defined three-caste system within its hive:

The Queen: There is only one queen per hive, and she lives three to four years. Her job is simply to lay eggs. She is most active in the summer and can lay up to 2,500 eggs each day. The type of honeybee that emerges depends on what the larva was fed. If the queen bee dies, the workers create a new queen by giving a young larva an abundance of a special food called “royal jelly”. The queen also produces chemicals (pheromones) that guide the behavior of the other bees in the hive.



The Workers: The workers comprise the largest part of the population and have a limited life expectancy. During the active season, they live about five- to six weeks, and during the winter they can survive as long as 21 to 28 weeks. The worker bees are all female and have a variety of special tasks throughout their lives.

A primary task is foraging for food. Honeybees are fascinating creatures, having five eyes and two pair of wings. They have a remarkable sense of smell, with 170 odorant receptors, and visit 50-100 flowers on each collection trip, storing the pollen on their hind legs in a pollen basket (*corbicula*). They perform a special dance, called the “waggle dance”, through which they indicate to other bees the direction of a food source.



A second task is to build and protect the hive which consists of a series of two layers of six-sided cells made of wax. The beeswax comes from a special gland on the bee's abdomen. During one season, the honeybees must produce about 60 pounds of honey to sustain the entire colony over the winter. A single colony can have as many as 50,000 bees!



Bees are “neat freaks”, and the worker will clean and maintain the hive. To maintain a constant 93 degrees year-round, they circulate the air in and around the hive by beating their wings as many as 200 times per second.

The Drones: Drones are all males, and their job is to mate with the queen. They don't have stingers and are unable to gather nectar and pollen and feed without assistance. In the autumn, they are expelled from the colony.

Are Honeybees Endangered?

Many sources indicate the honey industry is thriving. However, the bees are being threatened by loss of habitat, pesticides, pathogens, parasites, and climate change. Because of their importance in food production and other businesses, we should be concerned about this fact. There will be a direct impact on our world-wide food and industries if steps aren't taken to ensure their well-being.



How Can We Help?

Here at Hallockville Museum Farm we want to do our job in protecting the honeybees and enable them to continue their contribution to the ecosystem. We want to educate the public to the world-wide importance of bees and have people understand what we do and what they can do on their own to assist the bees.

We have over a dozen beehives on the farm. Our local beekeeper leads classes educating the public about the care of bees and their hives. You can set up your own hive at home, or if that's not a viable possibility, you can support one of Hallockville's hives and participate in lectures, honey making and honey tasting. It's a rewarding experience – just look!

Assembling a frame and hive



As the colony
expands,



so does the hive.....

Feeding and Fogging the Hives



Scraping, Spinning & Jarring the Honey!

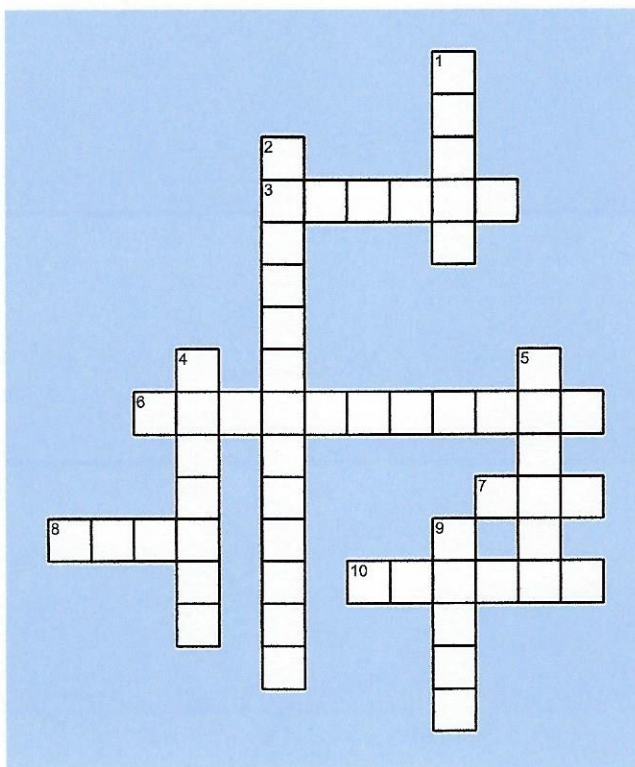


Sources

1. Planet Bee Foundation
2. "The Role of Honeybees in Ecosystem Pollination" by Kathleen Wong
3. *Revive a Bee*: "How Much of Our Food Supply Do Bees Pollinate?"
4. Wikipedia.org
5. National Geographic.com
6. National Geographic Kids
7. Encyclopedia Britannica
8. National Wildlife Federation
9. *Indian Country Today*: "The Origin of Golden Honey and Its Gastronomic and Medicinal Uses" by Dale Carson
10. *Thought Co.*: "15 Fascinating Honey Bee Facts" by Debbie Hadle

crossword puzzle

Honeybees



across:

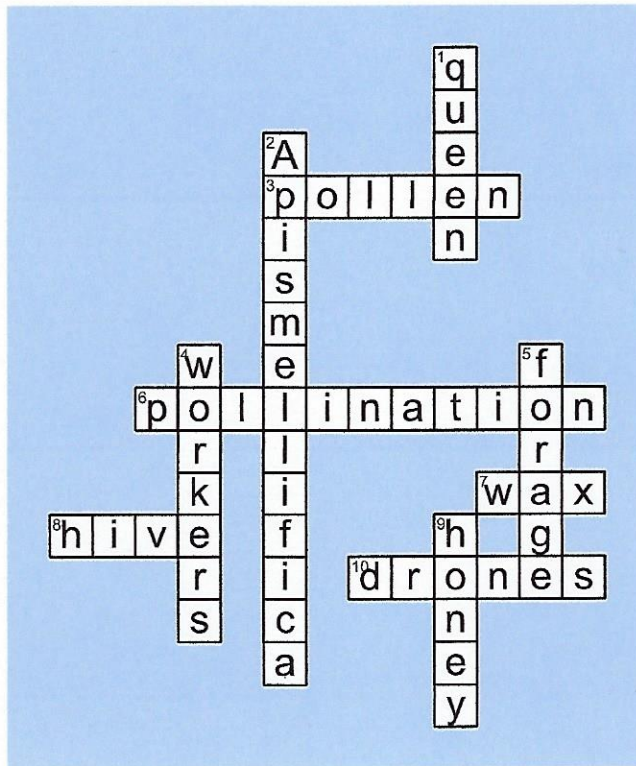
- 3: A fine powdery substance, typically yellow, consisting of microscopic grains discharged from the male part of a flower or from a male cone. Each grain contains a male gamete that can fertilize the female ovule
- 6: To move pollen from one flower to another
- 7: A hard substance that becomes soft when it is heated and that is used to make various products (such as candles, crayons, or polish)
- 8: A nest for bees
- 10: the male honeybees

down:

- 1: the bee that lays the eggs
- 2: Scientific name for honeybee
- 4: the female honeybees
- 5: to search for
- 9: A thick, sweet substance made by bees

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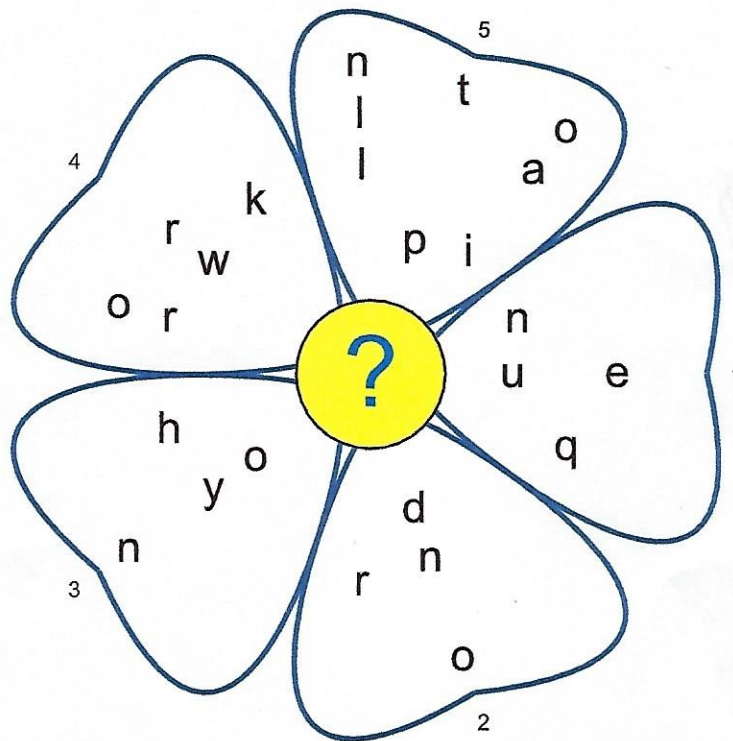
Class:

Date:

daisy puzzle

Honeybees

A word is printed on every leaf of the daisy, but the letters are not in the correct order. Every word is missing 1 letter. It is a letter that all the words have in common. Try to find what the common letter is and use it to find all the other words.



Name:

Class:

Date:

word search

t s t i n g e r s
w a x i r u b w b
x i w o r k e r s
i r p o l l e n t
e e d q e i h n w
u c r u n o i t i
g a o e y h v t n
h o n e y b e e g
i e e n a e g g s

beehive
drone
eggs
honeybee

pollen
queen
stingers
wax

wings
worker

Name:

Class:

Date:

word scramble

Honeybees

Look carefully at the jumbled words and try to unscrambling as many words as you can.

Good luck!

neuge

oedrn

owrrke

ihbeeev

owrlfe

yehon

lnpole

gseg

xwa

word scramble

www.edu-games.org

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word scramble

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