



The Buzz on Bees: True or False

How much do you know about bees and other pollinators? Whether you're a bee expert or just learning, this quiz is intended to stir your curiosity, challenge some common misconceptions, and foster your admiration for the amazing pollinators that we depend on for much of our food.

Learn more, and show your appreciation for bees and other pollinators by registering your garden through the Pollinator Partnership at millionpollinatorgardens.org. Bee Counted!

TRUE OR FALSE

1. Honeybees fly at about 12 to 15 mph.

True. And they beat their wings more than 200 times per second!



2. All bees are social animals, living in hives together with hundreds to thousand of other bees, and sharing the work of foraging, building the nest, and caring for the young.

False. This is true of honeybees, but not all bees, by any means. In fact the vast majority of the native bee species in the U.S. are solitary nesting. They tend to create and provision a nest on their own, without cooperation with other bees.

3. There are thousands of native bee species in the United States.

True. There are about 4000 species of native bees, ranging in size from the tiny *Perdita minima*, a resident of the desert southwest that is just 2 mm long, to the 40 mm carpenter bee.



4. Some bees line their nests with leaves.

True. You may have seen nearly perfect circles clipped from the leaves of your roses or other plants. This is done by leafcutter bees, solitary bees that use the greens as housing material.

5. A “nectar corridor” is another name for a pollinator garden.

False. Actually, a nectar corridor is a much bigger concept than that. Migratory pollinators, such as bats, hummingbirds, and the monarch butterfly, must be able to access food throughout their migratory route. If nectar is unavailable anywhere along their migratory route at the time of migration, it could result in the death of part of the population.

6. The only way a bee can access nectar from a flower is by inserting its tongue into the flower's throat.



False. Sometimes, when a flower has a long throat that places the nectar out of reach of its tongue, a bee will use her sharp mouthparts to cut a slit at the base of the flower where the nectar is stored, and drink the nectar directly from the corolla. Carpenter bees are notorious for this behavior.

7. Bees are generalist feeders, foraging on whatever food is available.

False. This is true for many of the more recognizable bees, such as honeybees and bumblebees. However, some bees are specialists. One example is the southeastern blueberry bee (*Habropoda laboriosa*), which forages primarily on blueberries. In her few weeks as an adult, a single female bee visits about 50,000 blueberry flowers, resulting in over 6,000 marketable blueberries worth about \$75.

8. Sonication is a kind of pollination

True. Also known as Buzz Pollination, this is the process where a bee attaches itself to a flower and rapidly vibrates its flight muscles. This movement causes the entire flower to vibrate and loosens the pollen so as to flow out the openings in the anthers. Bumblebees use buzz pollination when pollinating tomato flowers, and the southeastern blueberry bee pollinates blueberry flowers in this way.

9. Only female bees can sting.

True. A stinger is a modified ovipositor. Male bees are not equipped with this anatomical part. At any rate, most bee species are docile, and only sting when provoked. Wasps, which include yellow jackets, are much more aggressive.

10. In a honeybee hive, a queen bee lives one year, and is then replaced by another queen.

False. A queen honeybee can live up to five years. When she dies or gets sick, the rest of the females choose a baby successor with traits of a queen and feed her a special concoction of pollen and natural secretion called "royal jelly." The queen bee mates once and rules and expands her empire for the rest of her life.



11. Bees are descended from wasps.

True. Most wasps are carnivores. Some collect pollen but are not nearly as effective at pollinating plants as bees. Carnivorous wasps prey upon or parasitize other insects or spiders, and use this protein source to feed their young. About 125 million years ago, some wasps made a switch from hunting prey to gathering pollen. Pollen is rich in proteins and doesn't fight back, so it is easy to imagine why the bees became vegetarians. Over time, they evolved to meet the requirements of collecting pollen, and became bees.

12. Bees enjoy a caffeine buzz in the morning, like we do.

True. Up to 55 percent of flowering plants are estimated to have caffeinated nectar, and bees tend to visit such flowers more frequently, says Margaret J. Couvillon of the University of Sussex. Not only do they prefer caffeinated nectar, but the bees that sipped it were more likely to dance than the ones who were drinking decaf. And they repeated their abdomen shaking routine more times!

13. Bees are separated into two groups based on the length of their tongues.

True. Essentially, this is true. There are long-tongued bees and short-tongued bees. To be more specific, the mouthpart segments within their tongues, called proboscides, are used to gather nectar.

14. If you see a bee resting motionless in a flower, it is generally a female.



False. In general, when not working, female bees rest inside their nests. Males, on the other hand, have nothing to do with nest building or provisioning, so they find other places to rest. You'll often find male squash bees sleeping inside squash blossoms.

15. Squash bees nest underground, often beneath the very plants they will pollinate.

True. Keep this in mind if you pick your own pumpkin from a pumpkin farm. You may be walking over nests full of developing young squash bees!

16. All bees carry pollen in pollen baskets on their legs.



False. Honeybees and a few other species have pollen baskets. But others have alternate ways of collecting pollen. The female leafcutter bee carries it on the underside of her hairy abdomen, and then scrapes the pollen off within her nesting hole. Because the pollen is carried dry on her hair, it falls off easily as she moves among blossoms, resulting in more pollinated flowers than can be accomplished by the honey bee, who wets the pollen so it sticks to the legs during transport to the hive.

Resources:

<http://esa.org/seeds/toolkits/pollinator/fun-facts/>

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5306468.pdf