

Kids Ask Dr. Bug

Home to more than plants, kids ask Dr. Tamra Reall about the curious things found in the garden.

Why do bugs eat the plants in my garden? Ellen, 8

Insects need to eat, and many eat things such as other insects or spiders. However, as you say, some insects eat the same things we do, such as the plants in your garden. This year I grew squash and had to compete with squash bugs. They are great at hiding, but I knew they were there because I found their eggs on the underside of the plants' leaves. These bugs fed on the leaves, stems, and sometimes the fruit, and eventually killed the plants. I also found a tobacco hornworm eating my tomato plants, but because the adult moth it will grow into a pollinator, and I had plenty of tomatoes, I didn't mind sharing my crop. It can be frustrating when insects eat the same foods we want. Sometimes we need to manage pests so we have enough food to eat, and sometimes we can grow enough to share.

If bees have hair, why aren't they mammals? Soren, 14

Mammal species have hair and produce milk. The hair-like structures on bees, and other insects, are more correctly called setae. Setae are hollow and do many different things for insects, such as help insects feel things around them, taste, smell, sense the temperature, and even walk on water. The setae on bees are special – it is branched or feathery so that pollen grains stick to the hairs. This makes it possible for the bees to collect pollen to feed their colony and pollinate flowers in the process.

How many wings does a dragonfly have? Aya, 15

Most insects have four wings, and dragonflies are no exception. Their hind wings are slightly wider than their forewings. Their wings move independently of one another and can beat 20-45 times per second. Dragonflies are exceptional flyers and fantastic predators who capture their prey in the air. They can spin 180 degrees while flying. They can hover, fly backward, straight up or straight down. They are known for their aerial acrobatics! Scan the QR code or use this link (<https://youtu.be/cJJowVxiaRU>) to learn more about how dragonflies fly and how they are inspiring new technology.



How do dragonflies stay focused on one thing with so many eyes? Aiden, 14



Image: Dragonfly by Franco Patrizia

Insects have two different kinds of eyes. Ocelli are simple eyes on the top of the head that allow an insect to see light and dark. Ommatidia are the individual lenses that make up insects' compound eyes and they work together to produce a single image. More ommatidia mean a clearer image. In addition to three ocelli, dragonflies have around 30,000 ommatidia. In comparison, house flies have 3,000 ommatidia. Dragonflies can see 360 degrees so good luck sneaking up on them! Dragonflies see color, too, even better than we do! Because they only capture prey on the wing, sight is very important. These large eyes help them to capture 90-95 percent of the insects they hunt while flying at speeds of 20-35 miles per hour.

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