

## Kids Ask Dr. Bug

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

### **How many insects are in my backyard?** Noah, 9

This spring, I spent a lot of time looking for the different kinds of insects outside my door. I found ants, beetles, flies, moths and butterflies, termites, wasps, bees, dragonflies, springtails, stink bugs, and so many species within each of those groups – If I tried to count all of them, I wouldn't have been able to because there were probably millions. I also found many non-insects: centipedes, spiders, millipedes, roly polys, and worms. These insects are on flowers, on leaves, flying through the air, under the ground and under the mulch. If it makes you itchy just thinking about how many critters are all around you, keep in mind that a healthy environment has a great diversity of organisms. These critters benefit us in many ways, as well as being fascinating to watch and learn from. How many insects can you recognize in your backyard?

### **What's the difference between a bee and a wasp?** Mason, 10

Bees and wasps are similar because they are related, but they have some distinct differences. Bees are vegetarians and wasps are predators, although many wasps also feed on nectar from flowers. While wasps are often smooth, bees are usually hairy which helps them collect and spread lots of pollen from all the flowers they visit.

### **How do lightning bugs glow?** Mia, 12

Lightning bugs, also known as fireflies, are neither true bugs nor flies. They are beetles! These enchanting insects light up summer evenings with a chemical reaction, called bioluminescence. Special chemicals in these insects combine with oxygen and light is produced. This greenish-yellow light is the most efficient light in the world – all light and no heat. These beetles don't fly very fast and you can catch them to get a closer look. Some kids even collect them and put the beetles in a jar with air holes for a natural lamp. Remember, though, if you do this to be a good steward and set them free!



*Lightning beetle resting on a flower (image: Heather Griesbach)*

### **Follow-up question: Why do lightning bugs blink?** Mia, 12

Sometimes these beetles flash to warn potential predators that they taste bad. Usually, though, adult beetles flash their light in specific patterns to find their mate. Male lightning beetles of different species fly around and flash the pattern for their species. When a female likes the flashing pattern she sees, she flashes back from her tree or shrub and the male flies to her. The eggs are later laid in the soil and may also glow, just a little bit!

### **If my dog eats a lightning bug, will he start to glow?** Gavian, 12

No. Your dog's tongue might glow for a few seconds if the beetle gets squished, but it will fade quickly. There are other animals that glow, though! Some sea anemones, lanternfish, crystal jellyfish, and even some mushrooms and bacteria are bioluminescent. Even more interestingly, the chemicals that cause the reaction in lightning beetles, luciferin and luciferase, are used in scientific research to learn how cells and genes work. We can learn so much from nature!

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