

**nymphs:** insects that haven't reached full maturity; nymphs look like adults, but they are smaller, don't have fully-developed wings, and can't reproduce

**molt:** to shed an outer skin or covering in order to allow growth

**brood:** a group of young that hatch at one time

*Cicada* is a Latin word that means "tree cricket."

Cicadas are harmless; they don't sting or bite.

When millions of cicadas are buzzing at once, the sound can reach 90 decibels. That's loud enough to damage your hearing if you're exposed to it for too long.

Cicadas are a common treat in parts of Asia. Although they are edible, and trying a few won't hurt you, the cicadas in the U.S. may contain trace amounts of pesticides, so it's not recommended that you eat too many of them.

*If cicadas emerge only once every 13 or 17 years, why do you hear them every summer?*

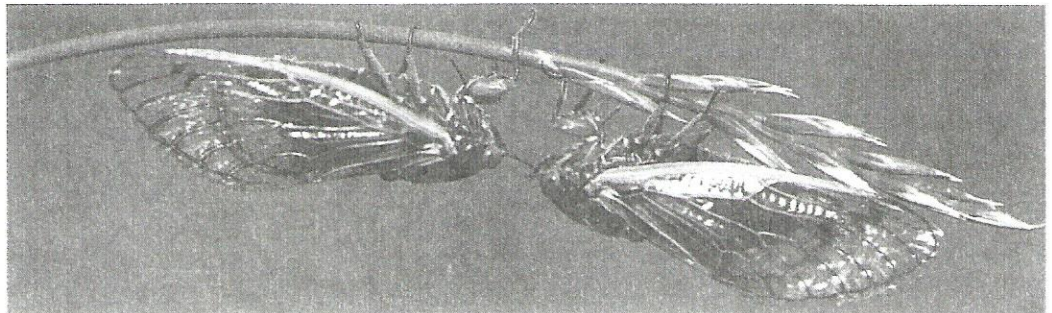
Each summer in July and August, the steady buzz of cicadas fills the air across much of the United States. Male cicadas produce this noise in order to attract mates. When dozens of cicadas buzz at once, the sound can be loud, but when millions of them are calling out at once, the sound can be nearly deafening.

Although there are thousands of different species of cicadas, they're all members of the Cicadidae family of insects. The most common cicadas in America are in the genus *Tibicen*. They emerge from the ground as nymphs in July and climb into nearby trees to molt. The adult cicada leaves behind its old exoskeleton as it flies off to find a mate, and the empty shells remain clinging to tree trunks and branches.

For a few short weeks, the male cicada's song can be heard echoing through the trees, but soon after mating, the male cicadas die. The adult females survive a bit longer in order to lay eggs in tiny slits they've cut into tree limbs, but then they die as well. Several weeks later, the eggs hatch and the larvae that emerge fall to the ground. They burrow deep into the soil, where they'll live for the next few years by feeding on juices from tree roots. About three years later, they reemerge as nymphs, and the cycle continues.

Although *Tibicen* cicadas are more common, the *Magicicada* genus is the one that makes the news. They emerge in the millions—and sometimes even in the billions—every 13 or 17 years, depending on the brood. In some wooded areas, the swarms are so thick that you can quickly end up with a dozen cicadas clinging to your body. The sound can be so overwhelming that it can be difficult to hold a conversation.

Entomologists believe there are a total of 15 *Magicicada* broods that emerge in different years and in different areas scattered across the eastern U.S. In 2004, Brood X emerged after its normal 17-year absence. Covering an area from Illinois to New York, and south to Georgia, Brood X is the largest of all the broods. Red-eyed cicadas filled the air. Because *Magicicadas* emerge a little earlier than *Tibicens*, most of them had mated and died by mid-July. The forest floor was littered with millions of rotting cicada carcasses, but chemicals released by the decomposing bodies provided important nutritional elements to the soil.



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Write your answers on the lines below.

1. What's the difference between *Tibicen* and *Magicicada* cicadas?

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2. Explain the life cycle of a cicada.

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3. How does the emergence of millions of cicadas at once benefit the environment?

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4. How might the emergence of millions of cicadas at once benefit the cicadas?

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5. In 2007, Brood XIII reemerged in Illinois. After weeks of news reports about the cicadas' return, people in some of the suburban areas surrounding Chicago were disappointed when no cicadas appeared in their neighborhoods. In areas like state parks, though, the air was absolutely swarming with bugs. Use the following clues to explain why you think the cicadas may have disappeared from these suburban areas.

- Cicadas don't migrate. The adults rarely travel more than a quarter of a mile from where they first emerged as nymphs.
- These *Magicicada* nymphs spend 17 years living several feet underground.
- Nymphs molt in trees, and the adults lay eggs in tree branches.

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### What's Next?

Scientific classification is an important tool for describing and categorizing Earth's many millions of living organisms. Look in the library or online to find a list of the eight major categories, and then choose an animal to discover how it's classified scientifically.