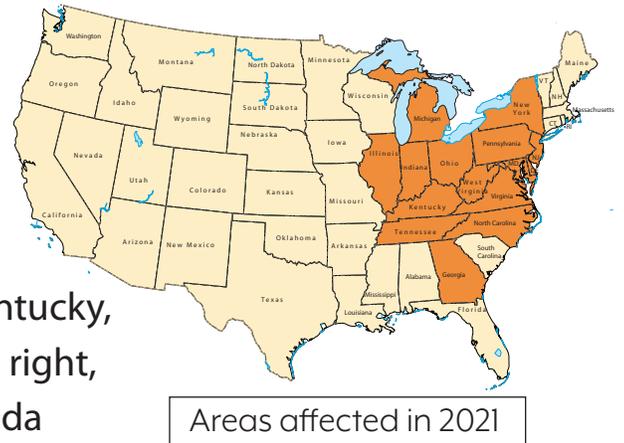


Magicalcicada, 2021: They're Back!

Something amazing will happen soon! One evening, just after sunset, Magicalcicada Brood X will emerge from the ground in some areas of the eastern United States. Some of these places are in New York, Maryland, Pennsylvania, Ohio, Indiana, Kentucky, West Virginia, and Virginia. When conditions are right, people may see as many as 1.5 million magicalcicada crowded into a single acre! The last time this happened was in 2004.



What is magicalcicada?

Magicalcicada is the genus¹ of **periodical cicadas**, flying bugs that arrive in huge swarms. Periodical cicadas have a life span that is longer than any other insect in North America. There are many different species of periodical cicadas, some with a thirteen-year life cycle and others with a seventeen-year life cycle. (Some species of cicadas, called annuals, come out every year.)



locust

They emerge in sunny areas sooner than shady areas; they appear in southern states before northern ones. Lots of ground holes near tree roots or under stones are signs that the cicadas are back.

People often confuse cicadas with locusts. Both are insects that appear in great swarms, but a locust is a type of grasshopper. A cicada is a cousin to the cricket. Locusts are hungry creatures that devour plants and can destroy crops, but a cicada does not eat solid foods. Its mouth parts only allow it to suck fluids.

Magicalcicada Life Cycle

The emergence of magicalcicadas is orchestrated like a great symphony² and requires certain conditions. The temperature of the soil about eight inches below the surface must reach sixty-four degrees Fahrenheit. A warm rain and a couple

of eighty-degree days let the nymphs know it is time to burrow to the surface. They immediately attach themselves to tree bark or leaves. Next, the nymphs molt, or lose their outer shells. They often leave their brown exoskeletons attached to trees (another clear sign that cicadas are back). The naked white nymphs hide out in foliage, mostly tree leaves and shrubs, for five or six days while they develop into mature cicadas. Their color changes, their wings expand, and their new exoskeletons harden.



Young cicada after molting

Mature male cicadas fly tree-to-tree in search of females for mating. The males serenade the females with a loud symphonic buzzing. Their songs vary by species. Cicadas make a “tick, tick, tick” sound or another noise that sounds like “pharaoh.” All types of cicadas can be very loud. In fact, a magicicada chorus can reach eighty-five decibels—as loud as a noisy cafeteria.

A mature female cicada lays 200 to 600 eggs. She deposits the eggs in twigs, tree bark, or shrubs. After approximately six to ten weeks, new nymphs hatch. Each is about the size of a grain of rice. The nymphs immediately drop to the ground and begin to tunnel down. Nymphs then remain underground for thirteen or seventeen years. There, they receive nutrition and fluid from tree roots about two feet below the surface. Adult cicadas that are above ground vanish after about five weeks. But with the nymphs already in the earth, the cicada life cycle goes on.

Harmless and Nutritious

Cicadas are not venomous, and they do not destroy crops. But they can be annoying. Some people keep them off with hats, umbrellas, or even beekeeper outfits. The bugs do very little damage to plants, except perhaps young trees and shrubs. Small trees can be protected by covering them with netting. Or foil can

be wrapped around a tree's trunk to prevent cicadas from climbing it.

Cicadas are not at all annoying to many other species. In fact, moles, snakes, spiders, wasps, squirrels, fish, and all kinds of birds are happy to see and gorge themselves on nymphs. Dogs and cats eat them too. Even people eat them! Long ago, Native Americans supplemented their nutrition with roasted cicadas. And today, people who don't mind a little crunch eat them raw, boiled, or chocolate-covered. Eating insects, of course, is very common in many parts of the world. Cicadas are inexpensive, tasty, protein-packed, and low in carbohydrates.

There are some risks to eating cicadas, however. Since they're only available every thirteen or seventeen years, a person probably wouldn't know if he or she is allergic to them. Also, the nymphs stay in the ground for many years, absorbing pesticides and other chemicals that people put into the soil. This is a good reason to keep pets from eating them, as well.

Want to know if any cicadas will be coming to your neighborhood? Get updated information from your local library, parks and recreation center, local newspapers, and biology or agricultural departments at colleges or universities.

¹genus: a grouping in the classification of living things; organisms within a genus are related in some way

²symphony: a long and complex piece of music performed by a full orchestra (many musicians)

- CCRA.R.2 1. Which sentence tells what the passage is mainly about?
- A) Certain types of bugs survive by hiding underground for thirteen or seventeen years.
 - B) When the soil temperature is warm enough, people everywhere will be surrounded by bugs, called magicicadas.
 - C) The magicicada is a fascinating insect that will emerge in eastern parts of the United States this year.
 - D) Native Americans and others ate roasted cicadas, but the cicadas of today are loaded with pesticides.
- CCRA.R.4 2. From context clues in the passage, you can tell that nymphs are _____.
- A) newly-hatched cicadas
 - B) locusts or grasshoppers
 - C) adult cicadas
 - D) underground burrows
- CCRA.R.1 3. According to the passage, people often confuse cicadas with locusts. Why?
- A) A cicada is a type of locust, or grasshopper.
 - B) Both are insects that swarm in large numbers.
 - C) Both hungrily devour crops and trees.
 - D) all of these
- CCRA.R.1 4. How do cicadas stay alive underground? Find the information in the text and underline it.
- CCRA.R.4 5. How is the emergence of cicadas like a symphony?
- _____
- _____
- CCRA.R.1 6. What conditions are important to the emergence of the cicadas each year?
- A) soil temperature of sixty-four degrees Fahrenheit
 - B) a warm rain
 - C) a few eighty-degree days
 - D) all of these

- CCRA.R.1 7. How can people protect small trees from damage by cicadas?
- A) Use bee keeper equipment.
 - B) Cover them with netting or wrap tree trunks with foil.
 - C) Put up a fence around the trees.
 - D) Nothing; trees cannot be protected from cicadas.

- CCRA.L.5 8. Which sentence uses a type of figurative language called a simile?
- A) Locusts are hungry creatures that devour plants and can destroy crops.
 - B) The naked white nymphs hide out in foliage.
 - C) In fact, a magicicada chorus can reach eighty-five decibels.
 - D) The emergence of magicicadas is orchestrated like a great symphony.

- CCRA.R.2 9. Find the paragraphs under the heading, Harmless and Nutritious. Which **two** are main ideas of this section?

- _____ Wrapping a tree with foil will protect it from climbing cicadas.
- _____ Cicadas may be annoying, but they are not harmful.
- _____ Eating insects is common in many parts of the world.
- _____ Many organisms feed on cicadas, as they can be nourishing.

- L.5.4.A 10. Match each term with its clue. (Reread the passage for context clues.)

- | | |
|--------------------|--------------------------|
| _____ genus | A) shed, cast off |
| _____ exoskeleton | B) food |
| _____ molt | C) poisonous |
| _____ venomous | D) dig down |
| _____ supplemented | E) a biological grouping |
| _____ nutrition | F) outside shell |
| _____ burrow | G) plants, tree leaves |
| _____ foliage | H) added to |

- CCRA.R.4 11. What does the underlined word mean?

The males serenade the females with a loud symphonic buzzing.

- scare away sing to encourage discourage

CCRA.R.1 12. Which statement best supports your answer to the previous question?

- A) Mature male cicadas fly tree to tree in search of females for mating.
- B) Their songs vary by species.
- C) Each is about the size of a grain of rice.

RI.5.8 13. What is the author’s purpose in writing this piece?

- A) to entertain by telling a story
- B) to persuade the reader to do something
- C) to inform the reader
- D) none of these

CCRA.R.2 14. Summarize the life cycle of the magicicada by numbering the sentences in order. The first and last are already numbered.

- _____ For thirteen or seventeen years, cicadas feed on fluid from tree roots.
- 8 Adult cicadas that are above ground vanish after about five weeks.
- _____ Young cicadas hide out in tree leaves for five or six days; their color changes, their wings expand, and their new exoskeletons harden.
- _____ Tiny nymphs hatch, drop to the ground, and tunnel down into the soil.
- 1 A female cicada lays 200 to 600 eggs and deposits them in twigs, tree bark, or shrubs.
- _____ Nymphs molt.
- _____ Mature males fly tree-to-tree in search of mates; they sing loudly.
- _____ When conditions are right, cicada nymphs burrow to the surface and attach themselves to tree bark or leaves.

RI.5.3 15. Compare male and female cicadas by completing the graphic organizer. Write the letter of each phrase under the correct heading. Some letters may be used more than once.

male cicada	both	female cicada

- A) makes loud buzzing sounds
- B) grows new exoskeleton as it matures
- C) lays eggs in tree bark
- D) hides out in foliage
- E) serenades its mate
- F) lays 200 to 600 eggs

Answer Key

1	C	CCRA.R.2
2	A	CCRA.R.4
3	B	CCRA.R.1
4	<u>There, they receive nutrition and fluid from tree roots about two feet below the surface.</u>	CCRA.R.1
5	Example: Certain conditions are required and everything happens in a specific order. In a symphony each instrument plays a certain part at a particular time, and it all works together to create the outcome. (Answers will vary.)	CCRA.R.4
6	D	CCRA.R.1
7	B	CCRA.R.1
8	D	CCRA.L.5
9	<ul style="list-style-type: none"> ✓ Cicadas may be annoying, but they are not harmful. ✓ Many organisms feed on cicadas, as they can be nourishing. 	CCRA.R.2
10	E F A C H B D G	L.5.4.A
11	sing to	CCRA.R.4

12	B	CCRA.R.1						
13	C	RI.5.8						
14	3 8 6 2 1 5 7 4	CCRA.R.2						
15	<table border="1"> <thead> <tr> <th data-bbox="284 770 644 827">male cicada</th> <th data-bbox="644 770 1003 827">both</th> <th data-bbox="1003 770 1362 827">female cicada</th> </tr> </thead> <tbody> <tr> <td data-bbox="284 827 644 884">A, E</td> <td data-bbox="644 827 1003 884">(A), B, D</td> <td data-bbox="1003 827 1362 884">C, F</td> </tr> </tbody> </table>	male cicada	both	female cicada	A, E	(A), B, D	C, F	RI.5.3
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