

CICADAS 2021



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This is a very special year Bethesda. It's a time when we get to see a very unusual insect called a **Cicada**. Cicadas are special bugs who do not bite or sting.



Here's a photo of a cicada. Tell me what you see about this bug. Notice their red eyes and see-through wings. Another word for see-through is transparent.

Cicadas hatch from eggs and are first called **Nymphs**.



It can be hard to see the nymphs underground because they are the same color as the dirt. This is called camouflage. Can you see the nymph climbing out of the dirt?

Nymphs live underground for 17 years! Seventeen years is a long time. The next time the cicadas come again, you will be a grown-up, like your mom and dad.



This little boy is the same age as you are now. He likes to learn about the cicadas.



This woman is all grown up. You will be a grown up when the cicadas come again in 17 years.

When the nymphs live underground they feed on sap from tree roots.



There are 3 main parts to a tree. There is the **crown** or top where the leaves are living on the branches. There is the **trunk** which is covered in bark to protect the tree. There are the **roots** that are hidden underground for most trees.

The nymphs eat sap from the roots of the tree until they are ready to come out of their underground hiding spaces every 17 years.

When the nymphs are ready to emerge or climb out from their underground home, they begin to dig a hole in the soil to emerge. Scientists study these holes to learn about these insects. The holes look like this.



Use your eyes or grab a magnifying glass to look around your yard or the play areas at Bradley Hills to see if you can find some nymph holes. Can you count the holes? How many do you see?

Nymphs have shells that come off (molt) FOUR times before they are ready to come out of the ground. After the nymph's fourth shell is complete, they come out of the ground and do one final (fifth) molt before they are ready to spread their wings and legs. These shells are called **exoskeletons**.



Here is a picture of an exoskeleton. Look closely, can you see the outline of where their wings and legs were?

Look around your yard, at the playground, on benches, or almost anywhere. Can you find some exoskeletons?

Scientists learn so much about cicadas from the amazing exoskeletons cicadas leave behind when they molt. Sometimes exoskeletons are on the ground and sometimes they hang from tree branches.



Pretend to be a scientist and look closely at this exoskeleton. What color is the exoskeleton? Do you see the cicada's wings and legs were hiding? Can you find exoskeletons on the ground to study?

There will be billions of cicadas visiting us this spring. Because each cicada molts there will be lots and lots and lots of cicada exoskeletons everywhere.



The exoskeletons will crunch under your feet. They will be on the grass, on the street, on the playgrounds, on the sidewalk. They will be everywhere.

Here's a song to help learn the parts of the exoskeleton!

(To the tune of *Head, Shoulders, Knees, and Toes*)

Head, Thorax,

Abdomen, Abdomen

Head, Thorax,

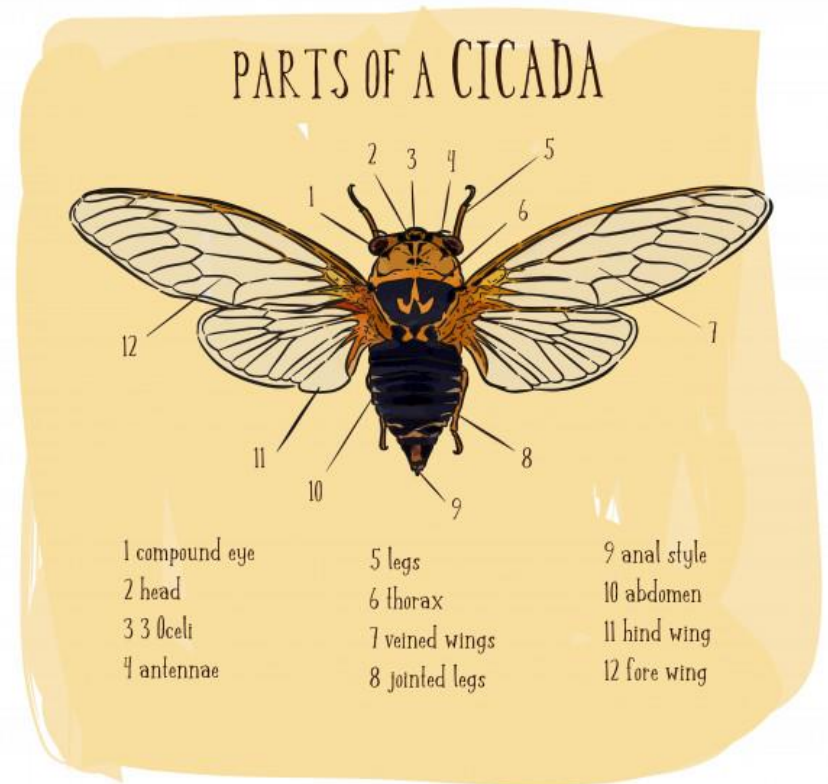
Abdomen, Abdomen

Six Legs, Antennae, Eyes,

& a Large Mouth

Head, Thorax,

Abdomen, Abdomen



Now that we've sung our song about the Cicada's exoskeleton, it's time to learn about the songs they sing for us.

Cicadas love to fly onto trees and look for other cicadas. Once in the trees, the male cicadas call as loudly as they can to find a mate. A mate is a special friend for cicadas.



The cicadas have special structures on their sides called **tymbals** that rub their legs together as fast as they can to make lots of noise to find a mate.



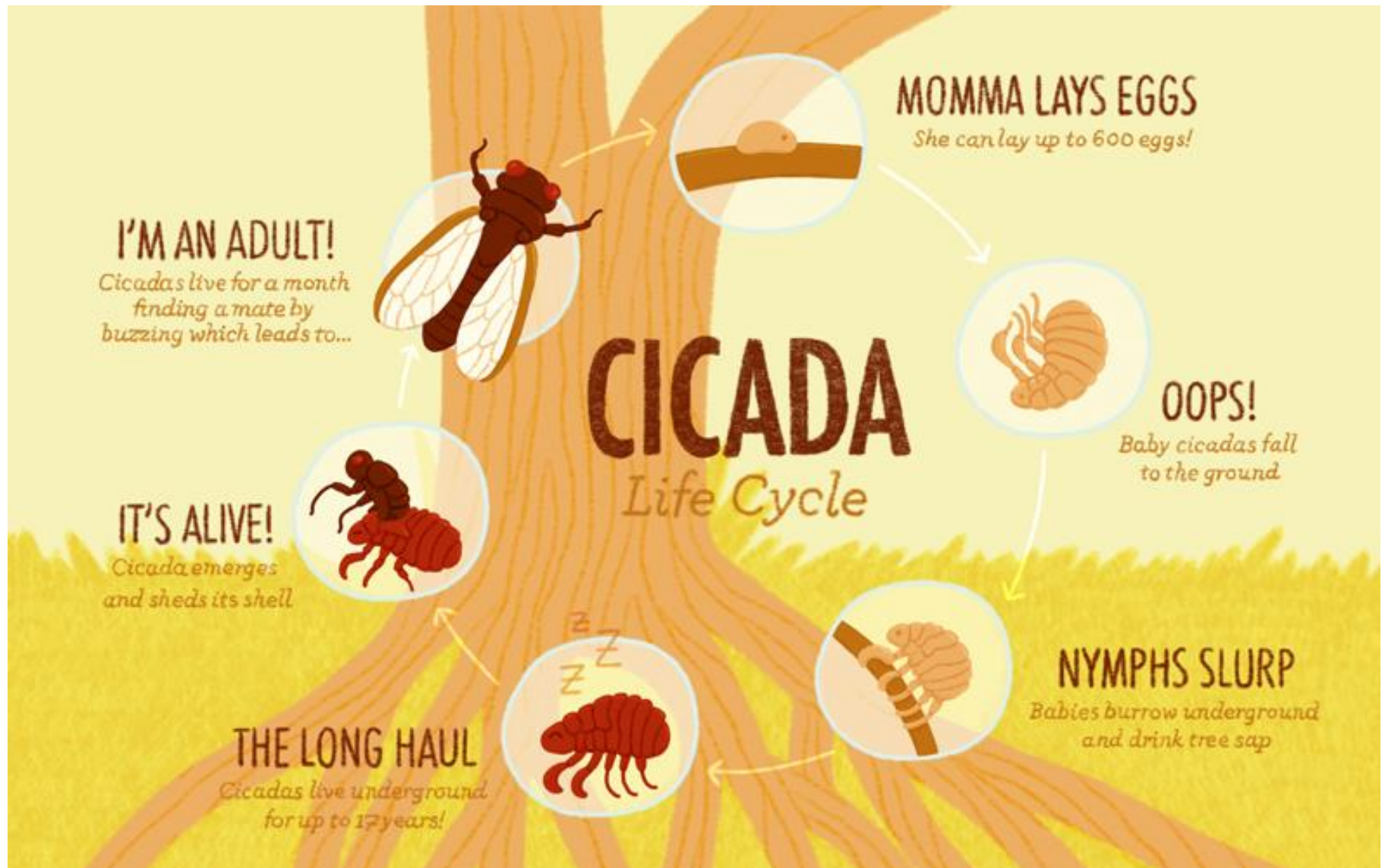
To see how tymbals work, find an empty plastic water bottle without a top and squash it in and out in the middle. This is like the cicada's tymbal pushing against its abdomen. The empty bottle is like the empty abdomen on a cicada. That's why the noise is loud.

When a girl cicada and a boy cicada become mates or friends, they become parents. The girl cicada lays eggs. The eggs become little nymphs. The nymphs burrow (which means to crawl back) into the ground and wait for 17 years to come out again.



Each girl cicada lays a lot of eggs. Can you see the eggs? How many eggs are there in this picture?

Cicada Life Cycle



Cicada Questions and Answers

What should you do if you notice an adult or child is scared of cicadas?

You can help your family and friends understand that cicadas cannot hurt them, and are actually super cool. Share some of the fun facts you have learned about cicadas to help others get to know cicadas better. And be patient.



Should you keep cicadas as pets?



It's best not to capture cicadas or keep them as pets. They have been waiting 17 years to reach this stage of their lives, and they should be allowed to find their mates and lay their eggs so they can come back in 17 more years. (That will be 2038.) Instead of keeping them in a jar, find a spot with lots of cicadas and watch them in nature. It is okay to collect the exoskeletons that have been shed!

Will the cicadas hurt the trees?

Large trees are not harmed by cicadas, though some of the leaves may die back. Small trees and shrubs can be damaged from the egg nests made by the female cicadas. Netting can be used to protect small trees.





What happens to cicadas after they die?

Many dead cicadas will be eaten by animals like raccoons, rats, mice, ants, and beetles. The ones that are not eaten will decompose, (that means break apart) into the soil where they will provide lots of nutrients to support growing plants. And so the life cycle of the cicada continues.

How do cicadas tell time?

No one knows! Each spring there are changes in the sap that flows from the roots of the leaves; while cicadas can use those changes to detect that another year has passed, no one really knows how they keep track of time and know when 17 years have passed for them to come again.



**17 Years Before the
Cicadas Come Again!**

For more information:

[Return of the Cicadas](#) (PBS Documentary)

[Cicada Mania: Cicada Insect News, Facts, Life Cycle, Photos, & Sounds](#)

[The 2021 Periodical Cicada Emergence \(Brood X\)](#)

Help scientists map Cicada Emergence with the [Cicada Safari app](#).

Visit www.FriendstoCicadas.org

Visit <https://kids.nationalgeographic.com/animals/invertebrates/facts/cicada>

Visit www.smithsonianmag.com/science-nature/14-fun-facts-about-cicadas-180977361/