

Biology Bits

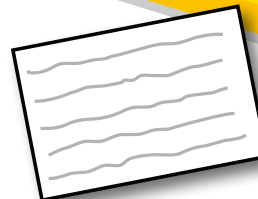
Bite-size Science

Trying new things can be hard. When you play a new sport, you have to learn and remember a whole new set of rules. When you try new food, you may end up not liking it (and you may even wish you could spit it out). The same goes for school. Learning information can be really hard and sometimes scary.


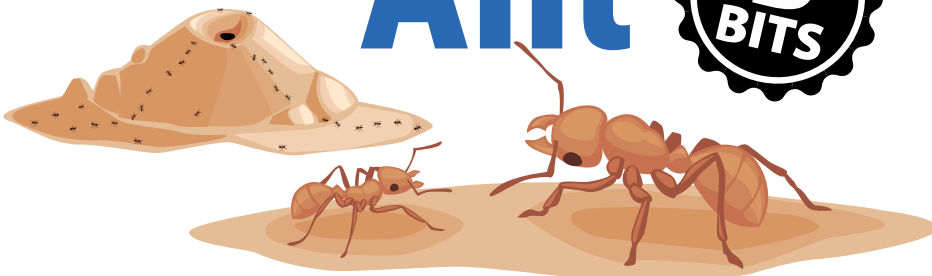
With food, what's the best way to start with something new? Trying a very small piece. You can take a tiny bite...taste it, feel the texture of it, and decide if you want more. Just like with new food, new information can also be easier to learn if you start off with really tiny bites.

Biology Bits stories are a great way for you to learn about biology a little bit at a time. We've broken down information into pieces that are very tiny—bite-sized, we call them. You can try just reading the Biology Bits at first. Cutting out the cards will let you organize them however you want, or use them as flashcards while you read.

Then, when you're ready to move on, use the empty cards to write out what you learned. You can copy what was already written, or try to write it in your own words if you are up for a challenge. Just remember, don't bite off too much at once!



Ant



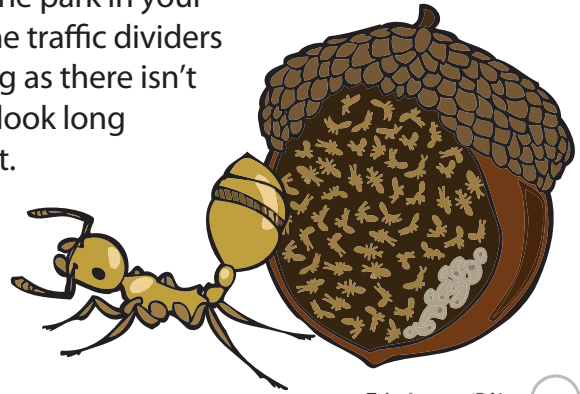
Written by Ioulia Bepalova

For more information on ants, visit:
<http://askbiologist.asu.edu/explore/secrets-superorganism>

This set of bits will teach you about tiny insects that can work together to accomplish big things: **ants.**

Hungry for more bits? Visit:
<http://askbiologist.asu.edu/activities/biology-bits>

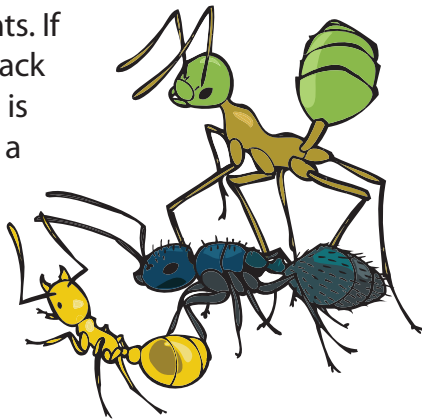
No matter where you live in the world, you will see ants. They make their homes in trees, soil, rocks, logs, and tiny acorns. You can find them living in the park in your neighborhood and in the traffic dividers of New York City. As long as there isn't any snow or rain, if you look long enough you'll see an ant. Some ants have even hitchhiked to Antarctica. There, they can only live near humans.



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Some people think there are only two kinds of ants – red ants and black ants. There are actually thousands of different kinds of ants. If you look closely, you'll see that black ants don't all look alike. The same is true for red ants, too. Ants can be a wide variety of colors. There are green ants, gold ants, and lemon-yellow ants. In Australia, they have shiny blue ants.



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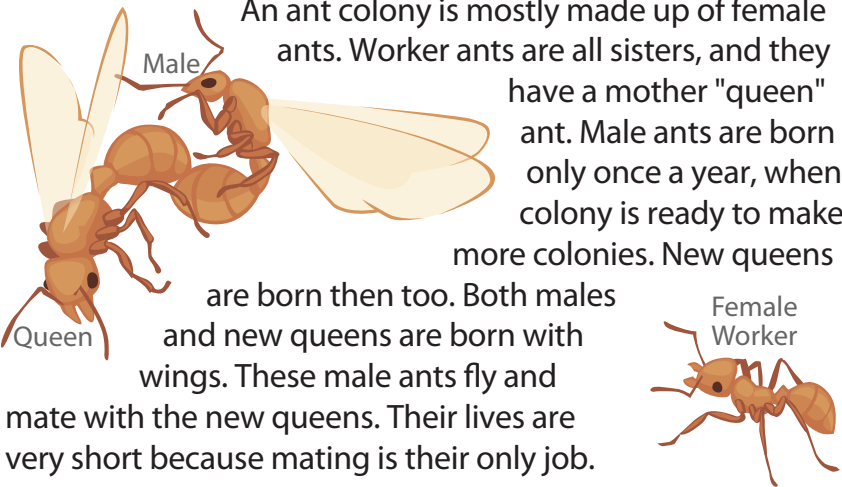
Every person in a school has a job. Teachers lead classes, cooks make food, and custodians keep the school clean. Your job at school is to learn. In an ant colony, every ant has a job too.



Some look after baby ants, others collect and prepare food. There are ants that dig and clean the nest. Some ants are born to do one job. Others do many different jobs as they grow.



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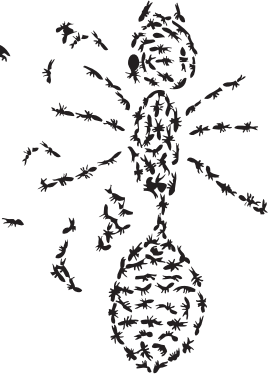


An ant colony is mostly made up of female ants. Worker ants are all sisters, and they have a mother "queen" ant. Male ants are born only once a year, when a colony is ready to make more colonies. New queens are born then too. Both males and new queens are born with wings. These male ants fly and mate with the new queens. Their lives are very short because mating is their only job.

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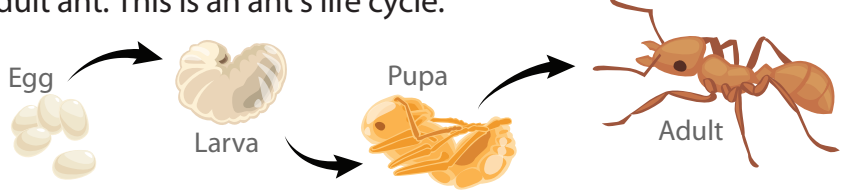
Superorganism sounds like a word that you might read in a comic book, but it's not. It's a name for a group living things that work together as one. An ant colony is a great example. Ant colonies have at least one queen and many workers. They can do the same things as a single animal, but with thousands of ants. A colony can find food, grow, and solve problems. Sometimes it does these things better than a single ant could. A colony can also make new colonies. This is why we call it a superorganism.



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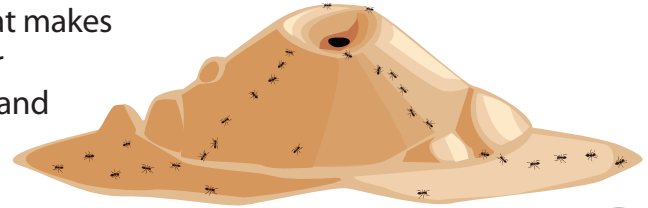


Inside an ant colony, you will see what looks like tiny jellybeans. These are actually baby ants. A mother ant lays a round squishy egg, and out hatches an ant larva. This larva looks like a long jellybean. The ant larva eats and grows until she can't grow any more. Then a weird thing happens – all the body parts she needs as an adult grow inside her jellybean body. At this point, she is called a pupa. Finally, she sheds her old skin to become an adult ant. This is an ant's life cycle.



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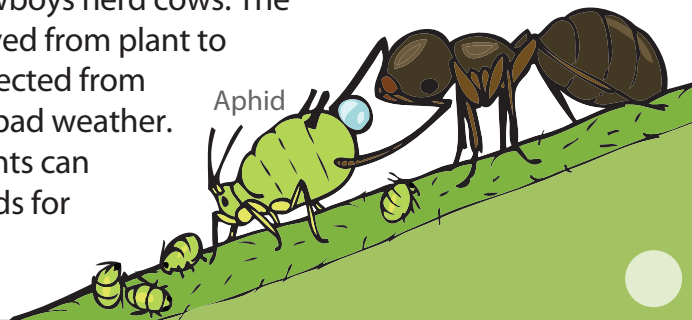
Have you ever heard “two heads are better than one”? When two people think together, they can be smarter than one person alone. Well, ant colonies have lots of thinking heads. That’s how colonies do so many things. They can find the shortest trail to a far-away pile of food. In a rock full of cracks, they can pick the best crack in which to live. Ants can be smarter than humans when they work together. That makes ants interesting for scientists to study and for you to watch.



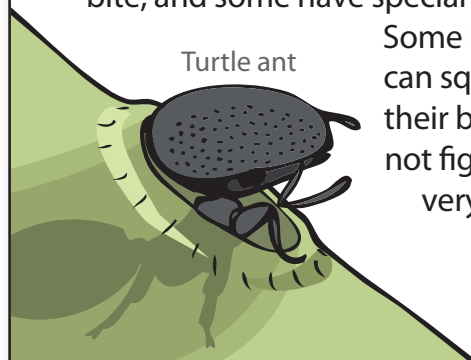
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Having an ant farm is a great way to watch ants, but did you know some ants really do farm? Fungus-growing ants make gardens of fungus to eat. They clean the fungus and feed it with leaves. One example of farming ants are leafcutters. Other kinds of ants are ranchers. They herd tiny bugs called aphids, like cowboys herd cows. The aphids are moved from plant to plant, and protected from predators and bad weather. In return, the ants can “milk” the aphids for sugar water.



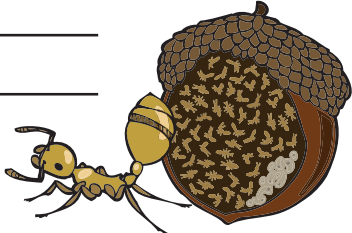
Most ants like to live peacefully, but sometimes they have to protect their nests. Other ant colonies might try to steal their home. Or a big animal (like you) might break their nest. They have a lot of different ways to protect the colony. All ants can bite, and some have special body parts for fighting, too.

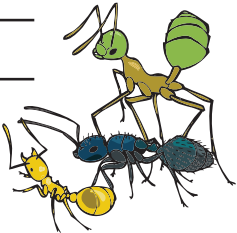


Some have a stinger like bees. Others can squirt acid or smelly spray from their behinds. Some ants would rather not fight. Instead, they hide or stay very still. Others, like the turtle ant, can plug up nest holes with their big heads.


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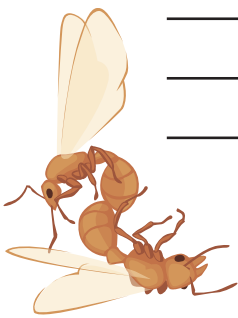


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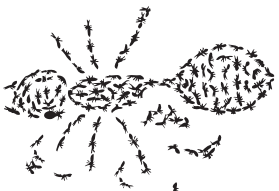


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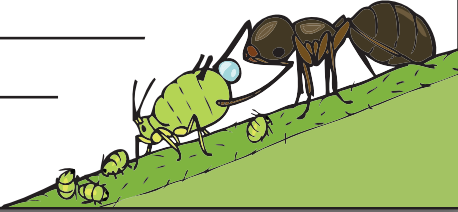


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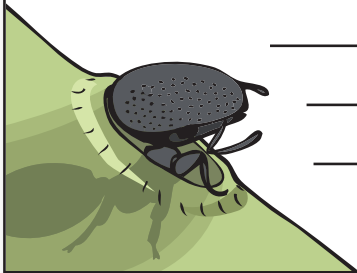
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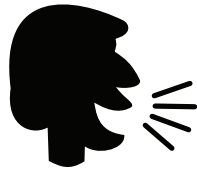


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How do
you say?

Acid – [as-id]

Antarctica – [ant-ark-tick-uh]

Aphid – [Ey-fid]

Australia – [aws-trail-yuh]

Colony – [call-uh-nee]

Custodian – [kuh-stoh-dee-uhn]

Fungus – [fung-guss]

Herd – [her-d]

Hitchhike – [hich-hayck]

Superorganism – [soo-per-or-guh-niz-uhm]

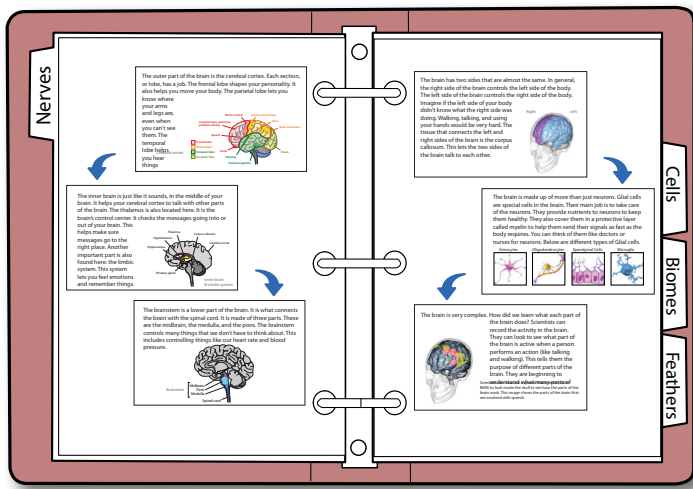
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Instructions

Ready to begin? You can use these bits in many ways. You can print the pages and place them in a notebook for review. You can also cut each card out to re-organize them any way you want.

The empty cards can be used to write out what you learned in your own words, or to copy what's already written. Also included is a pronunciation guide, to help you learn how to say the more complicated words.

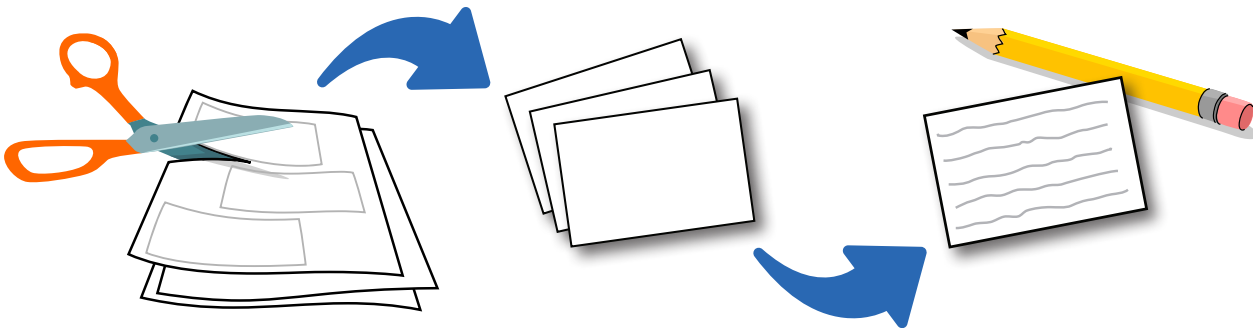


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Ioulia Bespalova

- Ant graphics, card 1, 2, 5, 8, 9

Sabine Deviche - via *Ask A Biologist*

- Ant graphics, card 3, 4, 6, 7