

ants



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Introduction

I'm going to talk about all the different ways ants live. I'm going to try to explain it as best I can. I'm going to talk about ant pheromones, ant societies, how ants use the environment to their advantage, and just the basics of ants. Hope you enjoy it!





What all ants have in common

All ants are insects. That means that they are small arthropods that have six legs. Did you know that ants live everywhere except Antarctica? Ants live pretty much everywhere. For their size, ants are really strong. They can lift ten times their own weight, and some types of ants can lift even more than that! Ants are in the family Formicidae, which means they are related to bees and wasps, bees and wasps are also in the family of formicidae. Most ants use chemicals called pheromones, pheromones are highly scented to the ants, they use their antennae to pick up the scent of other ants. Ants use their antennae to communicate and pick up scents. If an ant were to lose one of their antennae, they would have a lot of trouble knowing where to go and would be very confused.

Ant Pheromones

Ants use chemicals called pheromones to communicate with each other. For example, when a foraging ant finds food it will go back to the nest but it will leave a faint trail that the other ants can pick up. Then, more ants go, following the trail. They keep following it until what was there is gone, then they stop leaving the trail so the scent will fade away. Ants use pheromones to communicate because they can't see very well. They use their antennae to touch other ants' antennae to send quick interactions and pheromones to lead each other in whatever they are doing. The queen ant also uses pheromones to tell the worker ants her status at any given time. When an ant is squished it releases pheromones to alert the other ants of potential danger.



Ant Society

Different species of ants have different types of worker ant genres. There are around 12,000 different species of ants on planet Earth, so, for now, I'm going to talk about leaf cutter ant jobs:

- **Maxima Ants:** The biggest of the three and they are the soldiers that protect the colony and go out and forage for plants that have leaves for the media ants.
- **Media Ants:** The medium-sized ones and they cut the leaves and then drop them to the ground where more media ants pick up the leaves and bring them back to the nest.
- **Minima Ants:** The smallest of the three and they are the ones who take the leaves from the media ants when they come back and make them into balls and put them on the fungus they grow as their home, and they also tend to the brood (larvae and pupae. They are the newborn ants that are like cocoons)

That's just one example of an ant society. As you may know ants have a queen ant. The queen does not tell the ants what to do, she just does it to keep the colony alive. The queen is the one who lays all the eggs for the colony to keep it going and the ants will do anything to protect the queen. The queen ant also lays eggs that will be future queen ants. When it is time, the queen ants that the queen ant laid will go out to mate, the male ant will do the same. Male ants don't do anything but wait their entire life to mate, then they die after mating. After they mate, the queens will find a place to make a colony and she will dig and fend for herself until she has some workers to help her. If you did not know all the worker ants are female and most ants you see are also female.

A close-up photograph of a dark, textured tree branch. Several ants are visible on the branch, some near the top and others further down. The background is a dense, out-of-focus green, suggesting a forest or garden setting. The lighting is natural, highlighting the texture of the branch and the small figures of the ants.

How Ants Use the Environment to Their Advantage

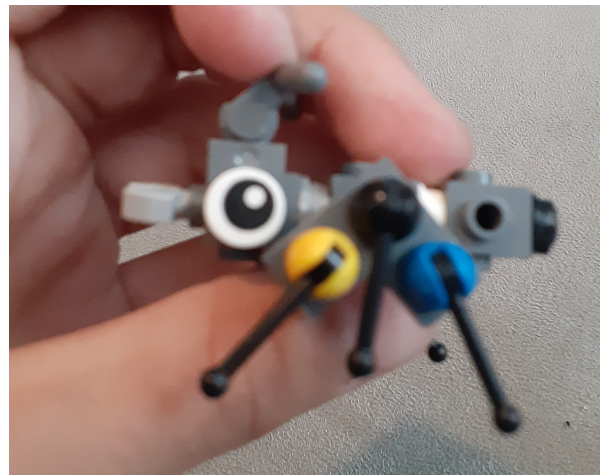
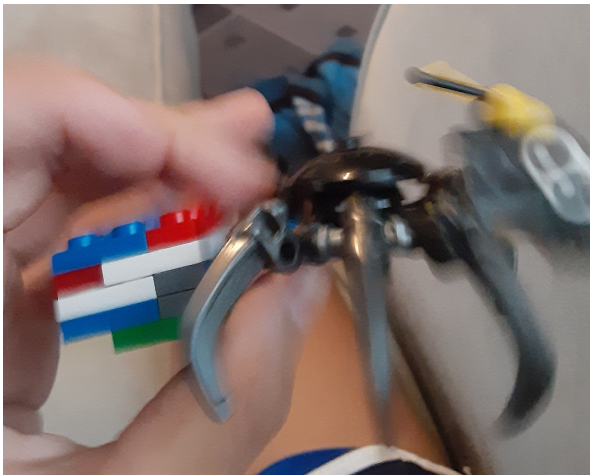
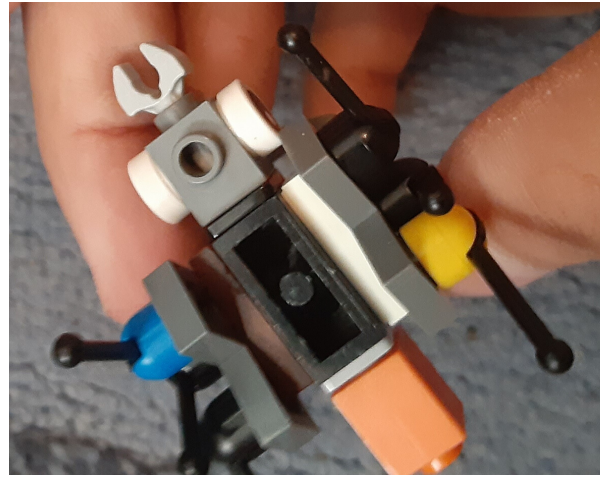
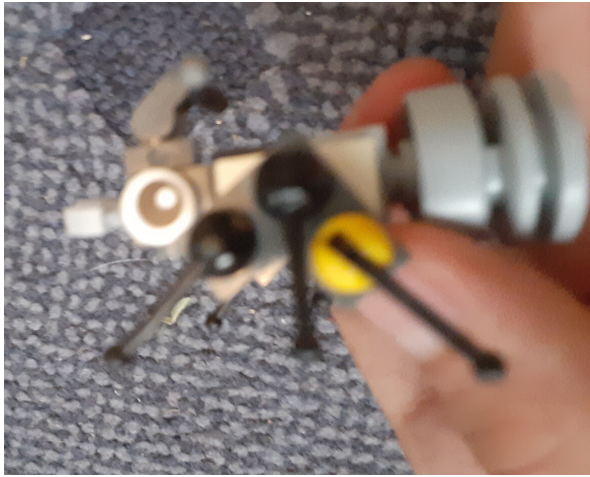
Some ants use the environment in special ways to benefit the colony. For example a type of wood ant lives in the stem of a carnivorous plant called a pitcher plant. The pitcher plant captures bugs and small things that get trapped in it. The edge of the plant is very slippery so once something slips in it can't get out. Here's where the ants come in: when the pitcher plant captures something the ants will go in the stomach acid (they can swim too and they are very resistant to acids). Then the ants will take some of the dead bug then take it to where they are in the stem. I bet you're wondering what's in it for the plant? The ants also help the plant by protecting it from danger and help it catch food. A type of ant called a crazy ant is an invasive species in Texas, here's what they use to their advantage: They find electronics and go in them and because their bodies conduct electricity, the electronic short circuits. When an ant dies it releases pheromones, so the other ants will pick up the scent and go there. Then they make a nest in there because crazy ants don't make their own homes, they take other things home. Another ant that uses the environment are leafcutter ants. Leafcutter ants grow fungi as their home that they live in and use a part as food. Here's some examples of ways ants get food. Some types of ants, such as herder ants, have aphid farms that the adults eat the honeydew that the aphids produce. One type of ant, called a honeypot ant, uses its abdomen like a backpack for honey and other ants can take from it also. Now I'm going to talk about how some ants defend themselves. One type of wood ant that lives in Europe disinfects themselves by getting pine tree resin and walking over it. The next ant that has unique defenses are fire ants. Fire ants have a bite that really hurts people so they use it to protect themselves. The next ant is exploding ants. They can explode as a last resort for protection against opposing threats.

Field Trip



I went to the Peabody museum to have a interview with the person who runs the leaf-cutter ant colony. His name is James Sirch. I learned a lot about leaf-cutter ants and how their colonies worked.





These are some model leaf-cutter ants I made out of Legos



Conclusion

*How ants can teach us to live
more sustainably*

That's how ants use the environment and how they communicate and just live on a daily basis. Here are some questions you could think about. Could we make pheromones? Also ants and humans are the only animals that have agriculture. Also isn't it so cool that crazy ants conduct electricity? Well, that's it. Hope you enjoyed it!

