



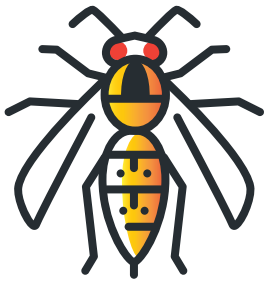
AnimalSmart.org

JR ANIMAL SCIENTIST

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BUGS AND US!





Creepy crawlies are fascinating!

There is a hidden world in every neighborhood! You can find these creatures in every barn, every pasture and every house. They fly, wiggle and crawl!

This is the hidden world of insects! Insects are an important part of animal science because many insects are pests for livestock animals. Scientists can protect animal health by studying how flies spread disease to cattle or how fleas infest cats and dogs.

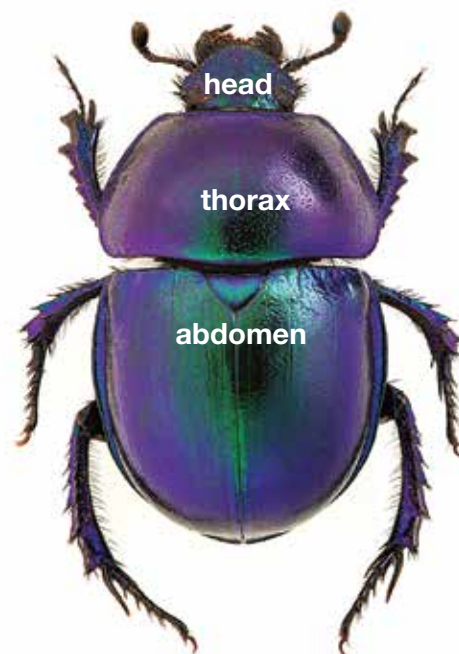
Scientists who mostly focus on studying insects are called entomologists. Entomologists are very important across the agriculture industry. They study ways to protect our food supply and the animals we care about!



What makes an insect?

There are two main rules for being an insect. First, all insects have three body segments. These are called the head, thorax and abdomen. Second, all insects have six legs.

Many people call insects “bugs,” and some insects actually are bugs. Bugs are insects that don’t have mouths. Instead, bugs use a long straw-like tube to suck juices from plants! Cicadas and aphids are bugs. Some bugs have adapted to drinking blood. Bed bugs are true bugs too.



Insects like this blue dung beetle can be found near animal waste.



Photo: iStock / WerksMedia

Young cicadas live underground, where they use piercing mouthparts to suck juices from roots and plants. Adult cicadas emerge from the ground to reproduce.

Bug fact!

Would you eat bugs for lunch? Many people around the world get nutrition from insects. While you shouldn’t eat insects from the yard, it’s worth knowing that insects are actually a great source of protein. In fact, insects are incredibly efficient. They don’t eat a lot, but they can provide a good dose of protein, fat or even sugar.

Dried mealworms are sometimes sold as snacks. Some even come in BBQ flavor!



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Face flies

Face flies are a nuisance for cattle, horses and other livestock around the world. These small flies buzz around the faces of animals and feed off secretions around the eyes, mouth and nose. These flies are annoying, and dangerous! These flies can transmit eyeworms to cattle and horses and pinkeye to cattle.

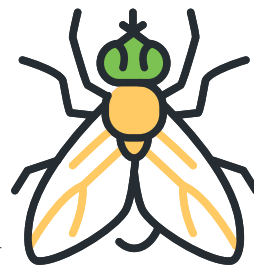


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Fleas

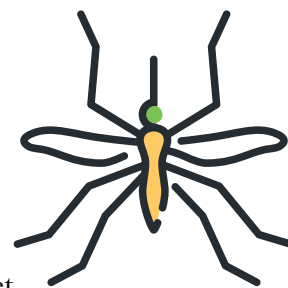
Fleas are blood-sucking insects that can drink 15 times their body weight in blood every day! Fleas are common on wild animals and can easily pass to cats and dogs. A bad infestation of fleas can cause a condition called anemia, which can be deadly for small animals, such as cats or lambs. Fleas can also pass tapeworms to livestock and cause allergies and skin diseases.



Photo: Flickr / Yu-Chan Chen

Mosquitoes

Mosquitoes are a huge problem for animals and humans. In fact, scientists call mosquitoes the most dangerous insects on the planet because they can spread deadly viruses such as dengue and yellow fever. They can also spread a parasitic disease called malaria, which kills more than 400,000 people each year.



Mosquitoes also drink the blood of livestock, which can weaken animals. They can also spread viruses such as Eastern Equine Encephalomyelitis (EEE), which kills horses and many other species. Mosquitoes are also big problems for pets. They can pass parasitic worms to dogs and cats, causing a harmful infection called heartworm.

Ticks

Ticks are not insects. How can we tell? Well, ticks have eight legs and only two body segments. This makes them arachnids, similar to spiders. Ticks can latch on to the skin of animals or people and burrow in. They hook their mouth parts into the skin to start sucking blood. Ticks can cause blood loss and spread diseases like cattle tick fever and Rocky Mountain spotted fever.

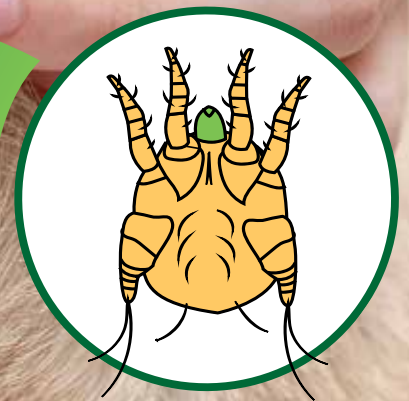
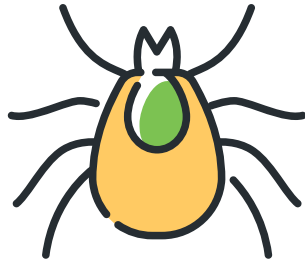


Photo: iStock / Evgenia Glinskaia

Ear mites

Ear mites are also arachnids. These small mites live inside animal ears and can look like dirt at first glance. Ear mites tend to live on animals such as cats, dogs, ferrets and rabbits. They can cause itching, rashes and discharge from the ears.

Insects of the world!



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LARGEST INSECT:

The **giant weta**, a large cricket from New Zealand!

SMALLEST INSECT: A **parasitic wasp** called *Dicopomorpha echmepterygis*, or the fairyfly. These wasps live in Costa Rica, and you'd have to line up four of the super-small male flies to span the length of the period at the end of this sentence.

BEST SWIMMER:

The **whirligig beetle**, which can swim on the water's surface and can even dive down to avoid predators. These beetles are found all around the world, from the United States to Australia!



Photo: iStock / skhoward



Photo: Flickr / GlacierNPS

BEST HOPPER:

The **tiny spittle bug** has the highest jump! The insect can jump two feet in the air. Compared to the size of its body, that is really high. That's like if you could jump over a skyscraper!



Photo: iStock / wWeiss Lichtspiele

BEST FLIER:

The **dragonfly** can zoom as fast as 35 miles per hour! Dragonflies live on every continent except Antarctica.

WEIRDEST INSECT:

All insects are pretty odd! One extra strange insect is the **Julia butterfly**, a butterfly that lives in the western Amazon rainforest. The Julia butterfly gets the salt it needs by drinking turtle tears!



Photo: Flickr / Big Cypress National Preserve

ACTIVITY

Build a bee waterer



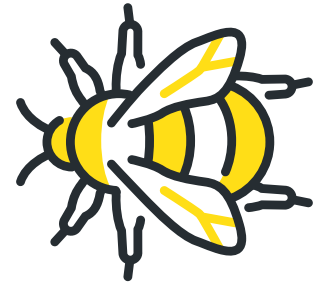
Photo: Flickr / USEPA Environmental-Protection-Agency/George Wilson

Insects are not all bad! Insects are an important part of the environment, and many insects are important in agriculture! Bees are especially good helpers. They visit flowers every day and spread pollen, which lets plants reproduce and grow fruit and vegetables!

We can help bees by giving them a safe place to drink water.

What you need:

- A shallow container, such as a plate, pie pan or any plastic container from the recycling
- Water
- Small rocks



Take your supplies outside and start assembling the bee waterer. Place a layer of small rocks on the bottom of your container. Add a small amount of water. The water should fill the bottom of the container but not come up above the rocks. This lets the rocks serve as a place for bees to stand as they drink water.

Leave your waterer outside for the bees to enjoy! Make sure to check it to add water and to make sure mosquito larvae aren't living in the water.



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