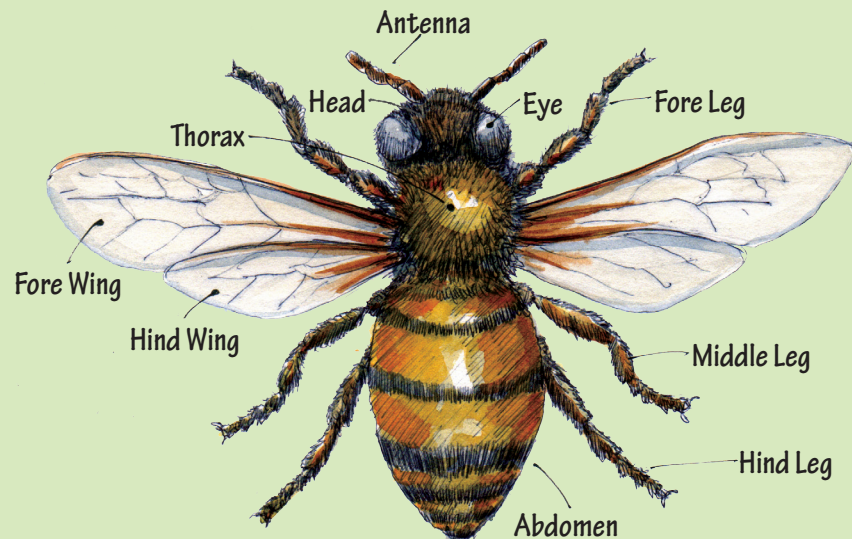


Insects

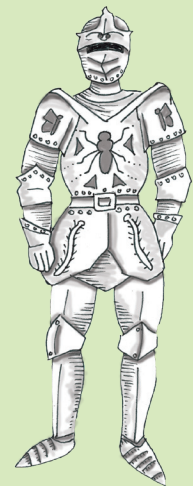
Insects are an extremely diverse group of animals. More than half of all known organisms on Earth are insects. There are over 1 million different types of insects!

The drawing of the honeybee below is typical of most insects. All insects have:

- A hard, external skeleton called an **exoskeleton**
- A **head** with two antennae, compound eyes and mouth parts
- A **thorax** with six jointed legs and, if present, 2 or 4 wings
- An **abdomen** with respiratory, reproductive and digestive organs



On the drawing above, circle the three main body parts of an insect.



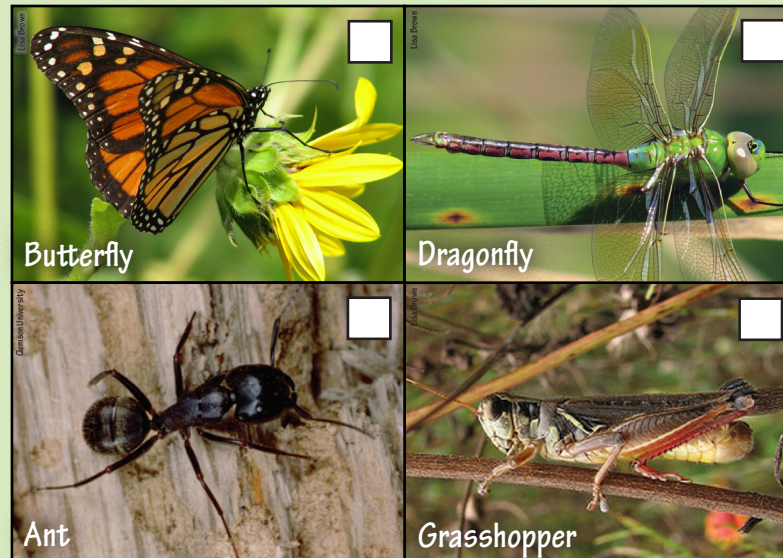
What is an Exoskeleton?

Unlike humans and other animals who have skeletons on the inside of our bodies, insects have their skeleton on the outside.

A hard exoskeleton protects an insect like a knight's armor.

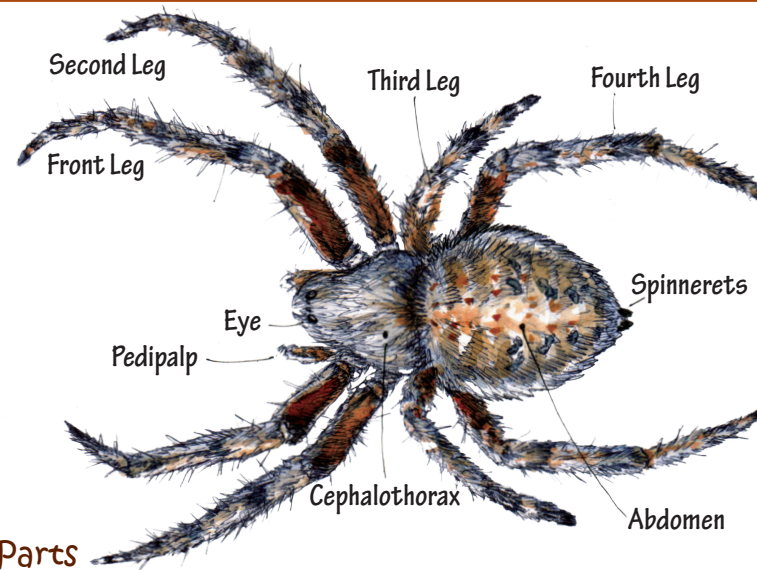


How many different kinds of insects can you find today?



Spiders

Although insects and spiders look similar, they are actually different. Insects have a three-part body and six legs. Spiders have a two-part body and eight legs.



Body Parts

Spiders have a hard exoskeleton and a two-part body made up of the **cephalothorax** and **abdomen**. The head and thorax in insects are combined into the cephalothorax in spiders. It contains eight legs, pedipalps and has venom injecting fangs! A spider's abdomen has web-making **spinnerets**.

Other Arthropods

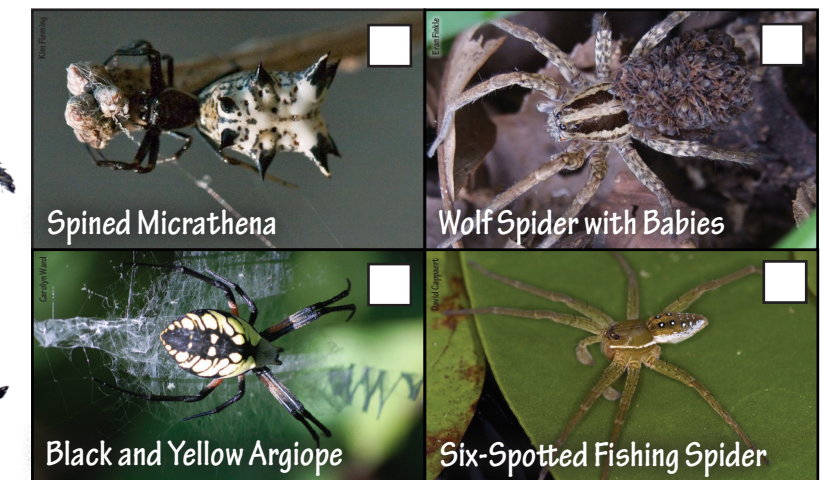
Arthropods are a group of creatures that make up about 80% of all living things on Earth. All arthropods have an exoskeleton, segmented body and jointed legs. Insects, spiders and crustaceans are all arthropods.

Look Similar, But Different

Although centipedes and millipedes look similar, they are not. Centipedes are venomous carnivores that eat insects and millipedes. Centipedes have two legs per body segment.



Millipedes are nonvenomous herbivores that like to eat decaying plant matter. Millipedes have four legs per body segment.



Hunting Strategies

Not all spiders live on or make spider webs. Some spiders actively hunt their prey by crawling through the leaf litter. Others patiently wait on vegetation. **Where did you find the most spiders today?**

CAUTION: DANGEROUS

If you come across any of these critters, please DO NOT handle them. The forest is their home, and since these critters play important roles in the natural environment, please DO NOT kill them either.

Extremely Venomous

The female black widow and brown recluse spiders have extremely venomous bites that can cause serious injury to humans, and in some cases be fatal. Even though you're more likely to encounter these spiders in your house, they do live outside as well... preferring wood piles and fallen debris.



Female black widows can be easily identified by their jet-black color and red hourglass marking on the bottom of their abdomen.

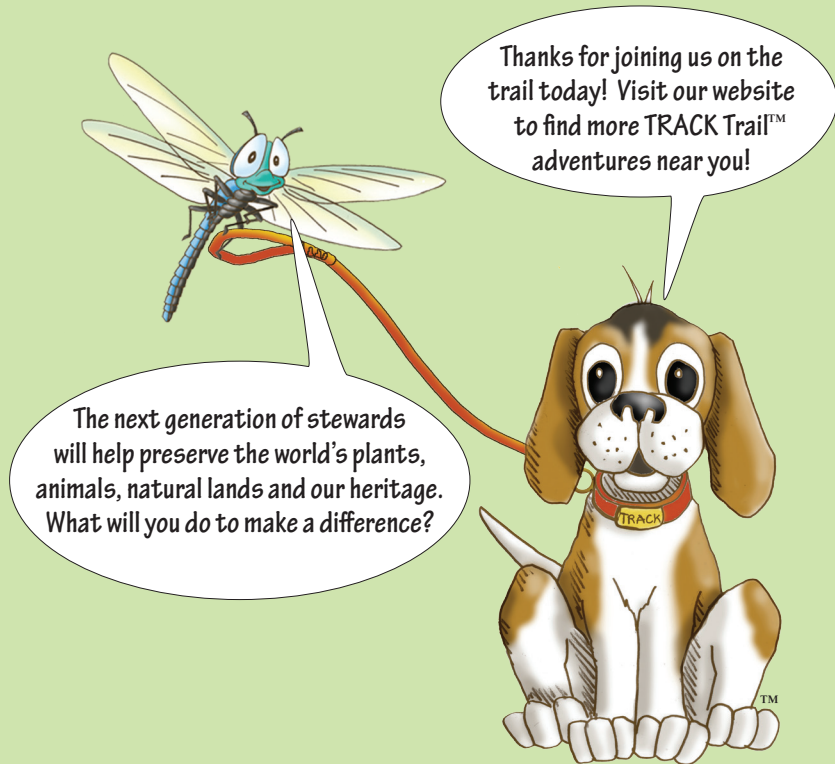
The brown recluse (also known as the violin spider, brown fiddler and fiddleback spider) has a violin shaped marking on the top of its cephalothorax.

Potentially Dangerous

Wasps, bees and centipedes have a mildly poisonous sting or bite that can cause severe reactions in some people. Although it is rare, ticks may carry dangerous diseases.



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TRACK TRAIL™ Bug Out

An Adventure into the Creepy Crawlies of the Forest

Most people get "Bugged Out" in the presence of insects and spiders. However, bugs are one of the most beneficial creatures on Earth! Bugs help pollinate the world's crops. Bugs even decompose dead plant and animal material which helps to recycle valuable nutrients back into soil.



On your hike today, use this brochure to identify some of the various insects, spiders and arthropods that call the forest home.



WARNING

Some of our insect and spider friends have adaptations that help them survive that can be harmful to you. Be Aware! Please read the side panel for information regarding potentially dangerous spiders and insects before beginning your adventure.