

## Spiders!

**Spiders can make a special material called silk. Explain what spiders can do.**



A half moon hangs in the night sky. It is the perfect time for a female bolas spider to hunt for food. Sitting on a twig, she spins a single strong line of silk. Silk is a thin rope, like a thread. At the end of the line is a sticky blob, like glue.

Next, the spider gives off a smell. This will get the attention of male moths. Now her trap is set. She waits. Soon a male moth breathes in the smell. He flies closer. As he approaches, the spider begins to swing her line of silk back and forth. She's trying to catch him.

The moth zooms past her, unharmed. He makes another pass toward the smell. She tries again. This time, her silk strikes the moth. The sticky blob catches him. The spider reels in her meal.

### *Family Ties*

You can see spiders in forests, grasslands, and deserts. You may find them under rocks, in water, on plants, and in caves. They may live nearly everywhere but don't confuse them with insects. Spiders are not insects. They are arachnids. Arachnids have eight legs and two main body parts. The upper section of a spider is made up of the head, stomach, and poison glands. The lower section, or abdomen, holds the heart, lungs, silk glands, and other organs. A hard outer covering called an exoskeleton protects their bodies.

### *Woven Wonder*

One thing all spiders do is produce silk. They use silk for webs, traps, egg sacs, and even to line their nests. At the lower end of their bodies, spiders have spinnerets. Spinnerets are flexible, fingerlike tubes. They hold liquid silk. Each spinneret shoots out a single thin strand of silk, like toothpaste from a tube. The silk hardens once it hits the air. The strands combine to form one sturdy thread. That thread is thinner than a human hair.

It might be thin, but don't be fooled. Spider silk is one of the strongest materials on Earth. Some spiders make silk that is stronger than steel of the same thickness.

### *Living With Spiders*

Many people are scared of spiders. Maybe it's the eight eyes or the hairy legs. Plus, some do have bites so poisonous that they make people sick. Yet most help us. Many of the bugs they munch on are pests that damage crops or bite us. A spider eats anywhere from one to dozens of insects a day. So that's millions of pests gulped, gobbled, and gone every day.

People can learn a lot from spiders, too. Studying spider silk could give us new ideas for fabrics or even buildings. So the next time you see a spider, don't be scared. Instead, think about how it's helping balance life on Earth.

Levit, Joe. "Spiders!" National Geographic Explorer, Oct. 2011, GALE|A269028072  
<http://go.galegroup.com/ps/i.do?p=ITKE&sw=w&u=wel&v=2.1&id=GALE%7CA269028072&it=r&asid=ef6f23c782190622cb80284b6b542d4c>.

## **Web weavers: some spiders build webs**

### *Building a Web*

A spider squeezes liquid from its body. The liquid hardens into a strong silk thread. It can be thin or thick. It can also be smooth or sticky.

All spiders spin silk. Some spiders hang from their silk. Some use their silk to protect their eggs. Many spiders use their silk to build webs.

### *Sticky Silk*

An orb weaver builds a round web. It is made of thin silk. Some of the silk is sticky. Insects fly into the web and get caught. The spider feels the web move. It knows that food is there.

### *Hide and Grab*

A funnel weaver builds a web near the ground. It is shaped like a cone. The spider hides in the narrow end. The web moves if an insect walks over the wide end. The spider feels the web move. It rushes out and grabs its meal.

### *A Spider's Body*

A spider is an arachnid (uh-RAK-nid). Arachnids are animals with two main body parts. They have eight legs. The back body part is called the abdomen. That is where silk is made. The spinnerets are where silk comes out. The front part of the body has the brain, mouth, eyes, and stomach.

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[url=http://go.galegroup.com/ps/i.do?p=ITKE&sw=w&u=wel&v=2.1&id=GALE%7CA241357170&it=r&asid=ebe8d14aef4db55b04b2378771585d5b](http://go.galegroup.com/ps/i.do?p=ITKE&sw=w&u=wel&v=2.1&id=GALE%7CA241357170&it=r&asid=ebe8d14aef4db55b04b2378771585d5b). Accessed 20 Nov. 2016.