

Spiders are skillful weavers. Each type of spider makes its own distinctive type of web. Webs take various forms, such as funnel shapes, triangular webs, globe webs, orb webs, and irregular-shaped webs. Female spiders construct their webs with silk threads produced in special glands. Silk is released through openings, called spinnerets, in the spider's abdomen. Tiny claws on the ends of the spider's legs are used to handle and place the silk threads. Although most male spiders do not weave webs, they do build nests near a female's web.

Spiders use their strong silk in many ways. Spiders make silk threads of different thicknesses, textures, and strengths. Threads that are not sticky make up the foundation of the web, and sticky threads are used for capturing prey. When an insect lands in a spider's web, the spider feels the vibrations with its legs. Quickly, the spider moves to the insect and wraps the prey in its silk. Then the spider injects the prey with paralyzing poison using its fangs.

Spiders use fine threads to make nests and spin cocoons and for ballooning. "Ballooning" is when spiders throw out a long silk thread and use it to ride an air current. The wind catches the thread and carries the spider along.

Q. Why don't spiders stick to their own webs?

A. When an insect flies through the web, the insect normally gets stuck to the sticky threads. However, a spider does not get stuck because its legs have tiny hair like structures called setae. When a spider walks on a sticky thread, the setae gets stuck onto the thread helping the spider to get grip and support to walk.

Exploring the World of Webs. No, not surfing the internet...

Head outside to your back yard or nearby nature trail. Please remember to only *observe, not harm, spiders and spider webs in their natural habitat.* **For your safety,** while most spiders are harmless, caution students of all ages against handling them.



One poisonous spider to look out for is the Black Widow, which has a rounded, glossy black body with an hourglass – shaped red or orange mark on its underside. The shape of this mark varies for spider to spider, and some Black Widows may have more than one mark

Look carefully in tall grasses, bushes or shrubs to find spider webs. Locate and highlight spider webs by gently misting with water the tall grass, bush, shrub or other locations where webs are likely to be. To avoid damaging any webs, direct the mister so that the spray falls on the web. DO NOT spray directly into the web. What are your findings?

- ❖ Measure the width and height of each web you find.
- ❖ Count how many threads cross through the center of the web?
- ❖ How many threads attach the web to the shrub?
- ❖ Can you find the spider who made this web?
- ❖ Are there any insects trapped in the web?
- ❖ Make a sketch of the web -- and the spider if you spotted her.
- ❖ Record your findings in your notebook.



Make a Spider Glider

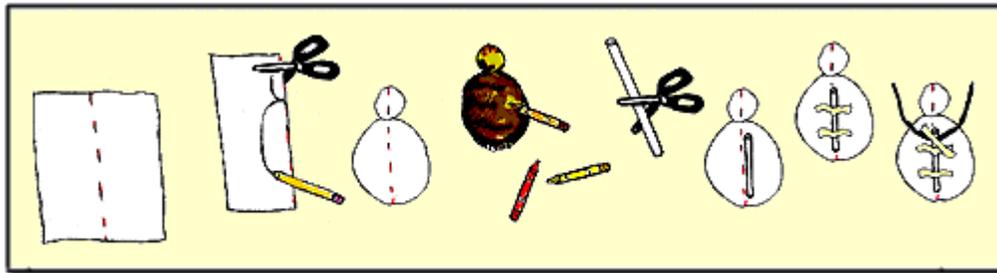
First, find a picture of a spider that interests you, then make a quick sketch. Use your sketch and turn your spider into a glider. This activity comes from the Science Museum of Minnesota.

Materials You will need:

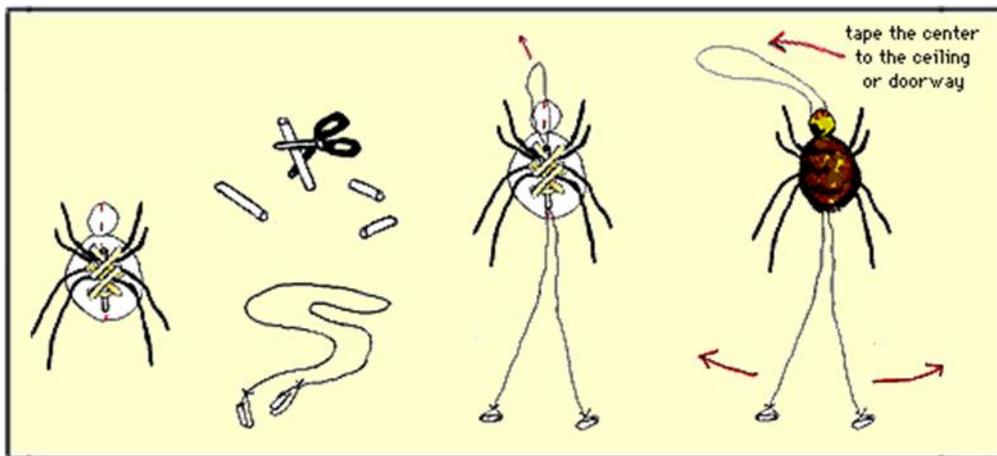
- Crayons or markers
- Masking Tape
- Scissors
- Straw (1)
- String or fishing line
- Construction paper
- Pencil
- Pipe cleaners (2)

Spider Glider Construction Instructions:

1. Fold paper in half
2. Draw half of each segment
3. Unfold
4. Decorate to look like your bug
5. Cut piece of straw to fit in the abdomen area
6. Tape straw to the back
7. Bend pipe cleaner for legs



8. Tape legs to straw
9. Cut leftover straw in half
10. Cut 5m of string
11. Tie small straw pieces to ends of string
12. Pull the string through the straw on glider
13. Hang it from the ceiling or in a doorway
14. You're ready to test it out! Now, pull the two lines apart. Is your spider a glider?



Try making a glider that will make a noise. How would your glider move if you used different kinds of string? Challenge a family member or friend at a social distance to a spider glider race.