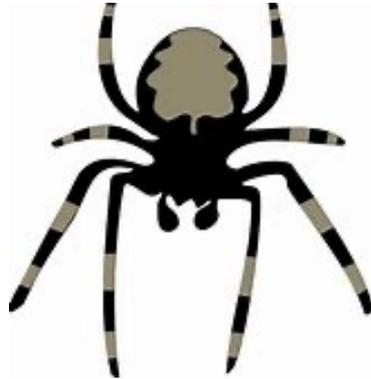


How are arachnids
different from insects?

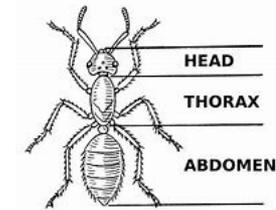
Clever Spiders



First let's put spiders in context:
Arthropods, also known as Creepy Crawlies

- Arthropods include insects (e.g., ants and bees), arachnids (e.g., spiders), myriapods (e.g., millipedes and centipedes), and crustaceans (e.g., pill bugs).
- Tap your forehead, elbow, knee. Can you feel the hard bone under your soft skin? Those bones are the parts of our skeletons that give structure to our bodies. Our skeletons are inside our skin.

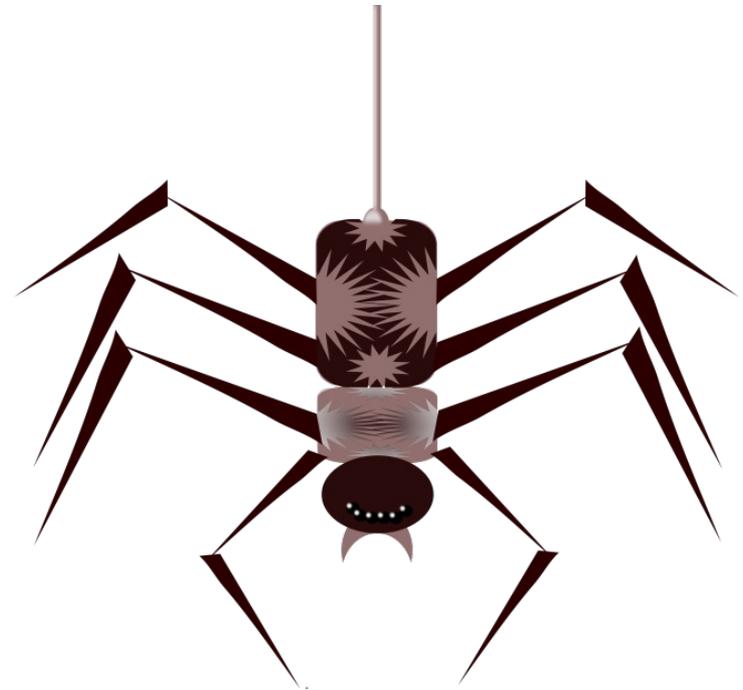
Arthropods have (big word alert!) exoskeletons; that means that their skeletons (hard structures) are outside their bodies like a suit of armor. Their exoskeletons are made of a cellulose like material, chitin, and minerals.



They also have bodies in segments (parts) and jointed (like our knee or shoulder) legs. There are appendages (like our legs and arms) or body parts, attached to the segments.

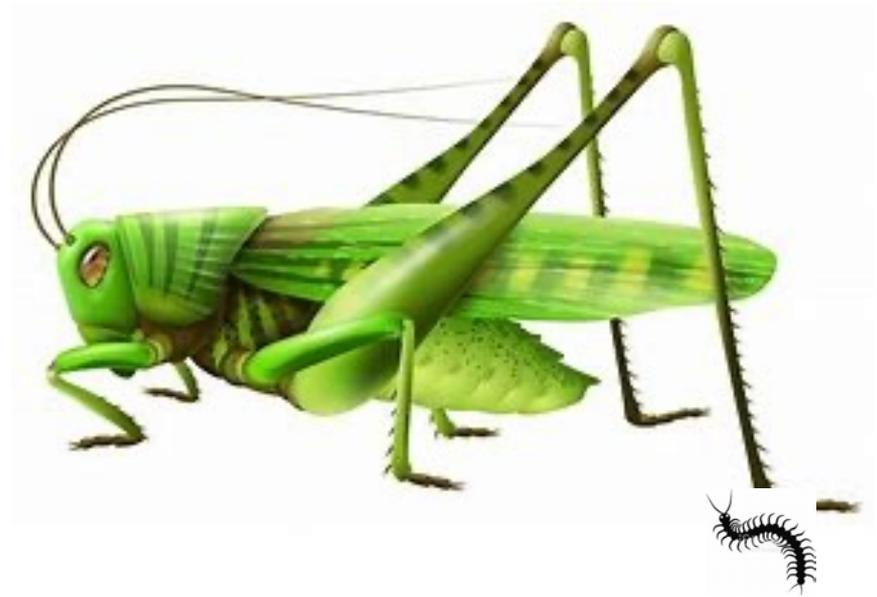
Arthropods

- exoskeleton=skeleton outside so they molt to grow,
- no backbone,
- jointed legs,
- segments=body divided,
- appendages=parts attached,
- cuticle made from chitin.

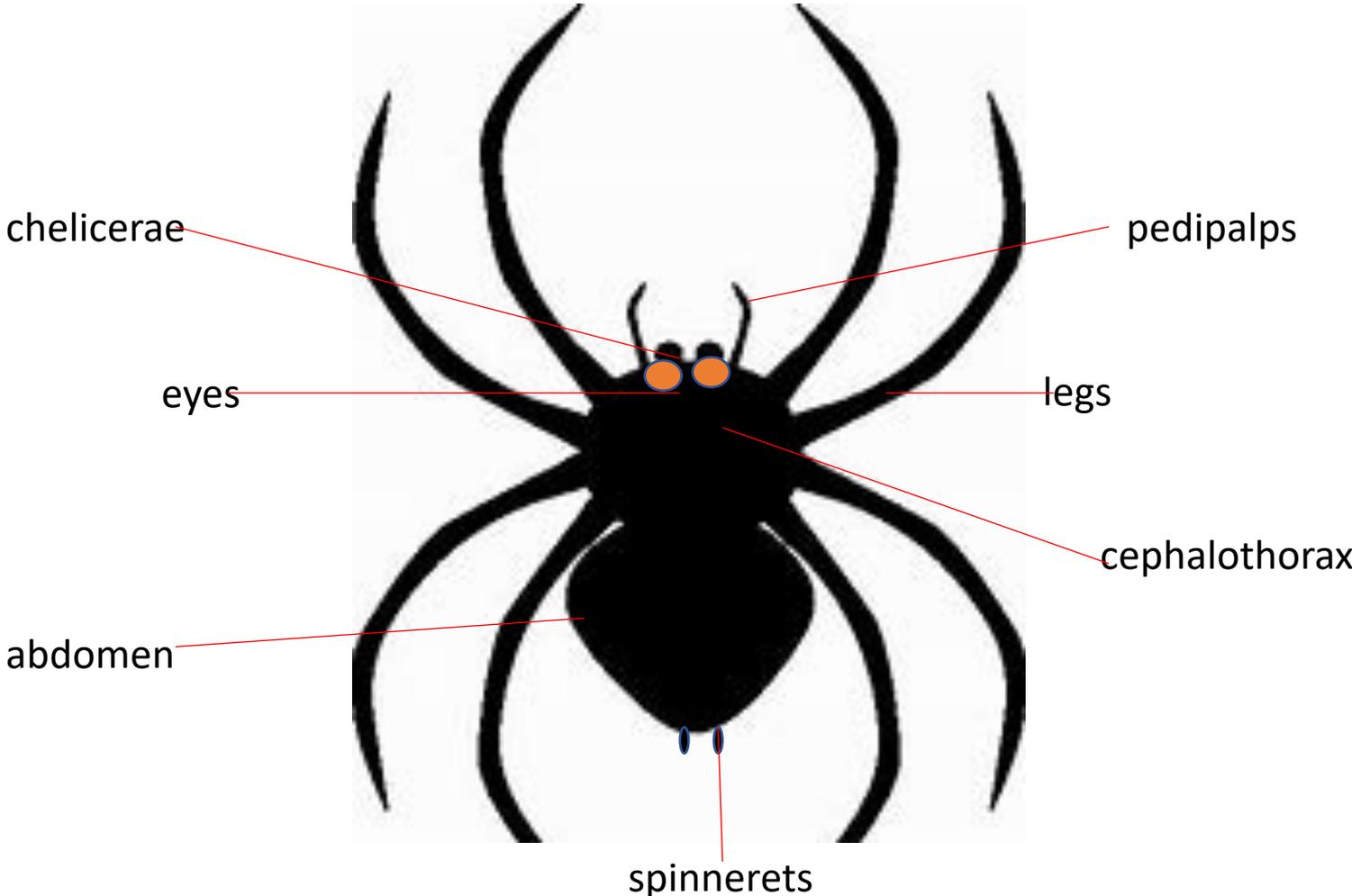




- There are several kinds of arthropods (segmented body, exoskeleton, segmented legs).
- Arachnids—8 legs, chelicerae (used for eating), pedipalps (used for bringing food to the mouth), 7 segments in legs, 2 body parts (cephalothorax=combined head and thorax, and abdomen), 8 simple eyes in 2-3 rows
- Insects—6 legs, some wings, antennae, a variety of eyes, 3 body parts (head, thorax, abdomen)
- Crustaceans—woodlice—long segmented body and segmented legs—some crustaceans have claws and antennules (small antennae)
- Myriapods—long segmented bodies and many legs.



Spiders are arachnids. They have two body parts; cephalothorax (a combined head and thorax) and abdomen. How would you like it to have 8 legs attached to your head? The spider's legs come out of its head! Spiders have 8 legs and spinnerets to make silk for webs.





Different spiders use
different ways of
hunting—webs, trapping,
jumping, even underwater!

Some ways of hunting

....

- Fishing
- Spitting,
- Bola
- Net casting
- Trapping



What are some ways spiders hunt?

Wolf spiders hunt on foot on the ground.

Trap door spiders dig holes covered with dirt doors hinged with spider silk, and ambush passing prey.

Some spiders hide inside flowers to surprise passing insects.

Spiders pounce, use bola threads and spit.

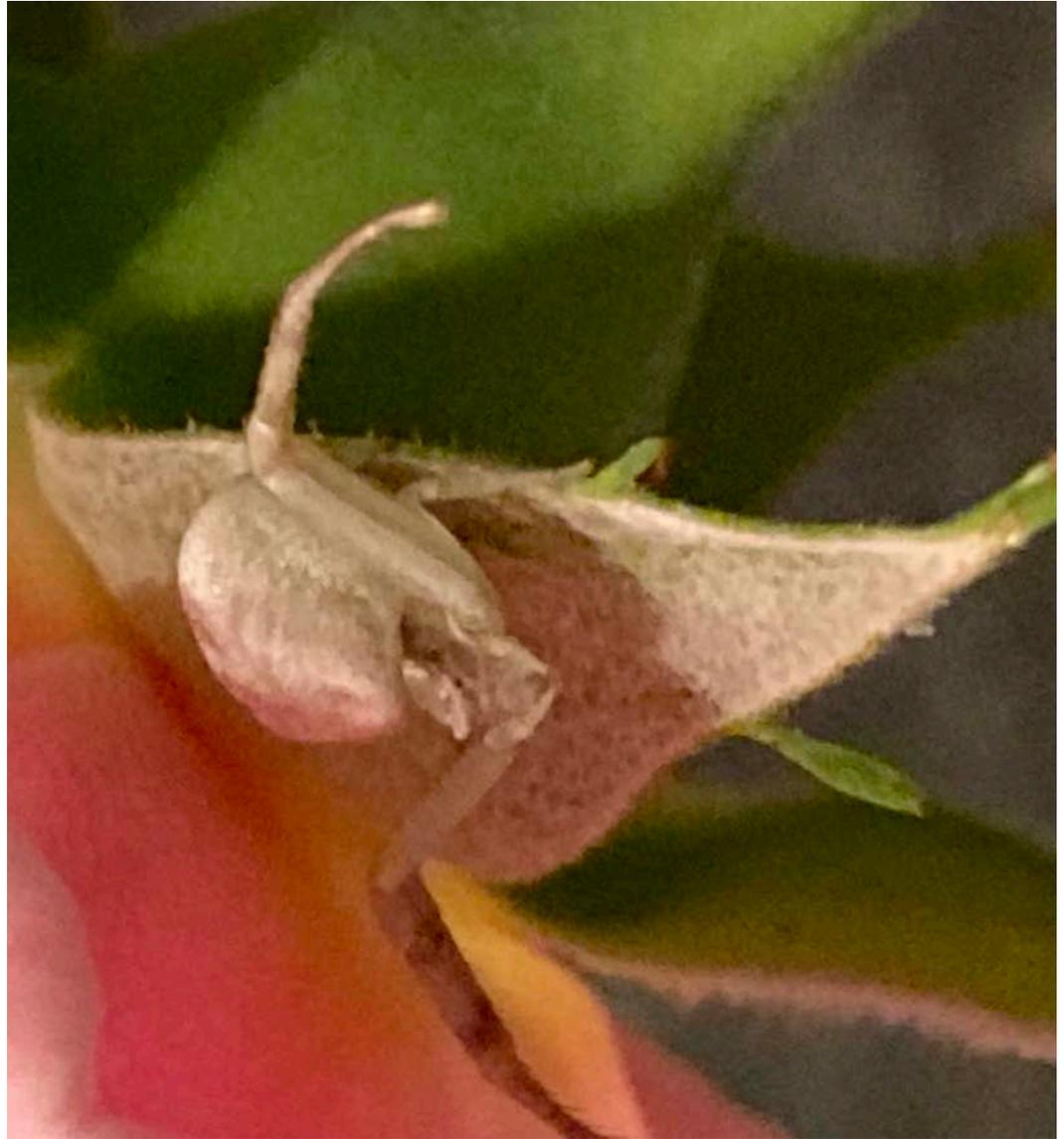
Some spiders even fish!

Some spiders cast nets.



More about how spiders work....

- Spiders have book lungs that look like pages of a book.
- Spider bodies are covered with hairs for tasting, smelling and differentiating vibrations.
- Spiders make 6 different kinds of silk. Spider silk is 5 times stronger than steel of the same diameter. Spider silk is made of protein.
- Spiders can “throw” their urticating (irritating) hairs to protect themselves.



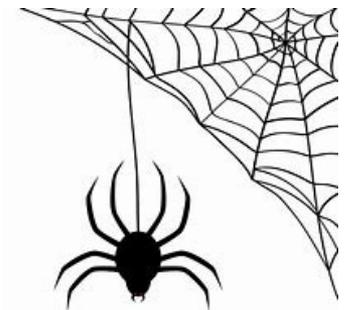
More about spiders!

Kinds of spiders

- Spiders use spitting, hunting, jumping, fishing and trapping, as well as webs to trap prey--spiders are carnivores.
- Some kinds of spiders are money spiders, orb-web spiders, trapdoor spiders, jumping spiders, crab spiders and huntsman spiders.

Webs

- Webs can be orbs or circles, hammocks, sheets, zippers, scaffolds, triangles, tangles, or traps.
- Spiders can make trapdoors, or spit, to glue their prey, or make nets with bubbles, to catch prey in the water.





There are 6 main kinds of webs—different webs for different ways of hunting:

- Orb—good for flying insects
- Tangle—cobwebs found in houses
- Funnel—spiders hiding and ambushing
- Sheet—spiders hanging upside down from the web
- Triangle—fuzzy thread entangling the prey
- Mesh—outdoor cobwebs under rocks with a snare thread



Spider Lore



- Insects have 3 body parts, 6 legs, antennae, and often wings.
- Spiders are arachnids.
- Spiders generally have 8 eyes, 2 large and 6 small.
- Their 8 legs have 7 joints.
- They have scopulate (brush-like tufts of hairs) pads on the bottom of their feet and generally 2 claws.
- The hard shell made of chitin (hard substance) over the cephalothorax is the carapace. There is a thinner, more flexible protective cuticle covering over the abdomen.
- They have chelicerae and pedipalps to hold, tear, and push food into their mouths.
- When they molt the abdomen splits.
- The spinnerets make silk. The two body parts are cephalothorax and abdomen. Lyriform organs (slits) pick up sensory signals.



Spiders have hard exoskeletons, so they have to molt to grow.



You can sing spider songs!

The Spider in the Web

Sung to: "Farmer in the Dell"

The spider weaves a web, (hands together fingers curled)

The spider weaves a web.(hands together fingers curled)

Spinning spinning, watching waiting, (hand spinning)

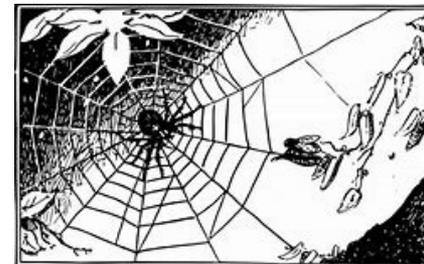
The spider weaves a web. (hands together fingers curled)

The spider's hunting bugs. (hand grasping)

The spider's hunting bugs. (hand grasping)

Spinning spinning, watching waiting, (hand spinning)

The spider weaves a web. (hands together fingers curled)



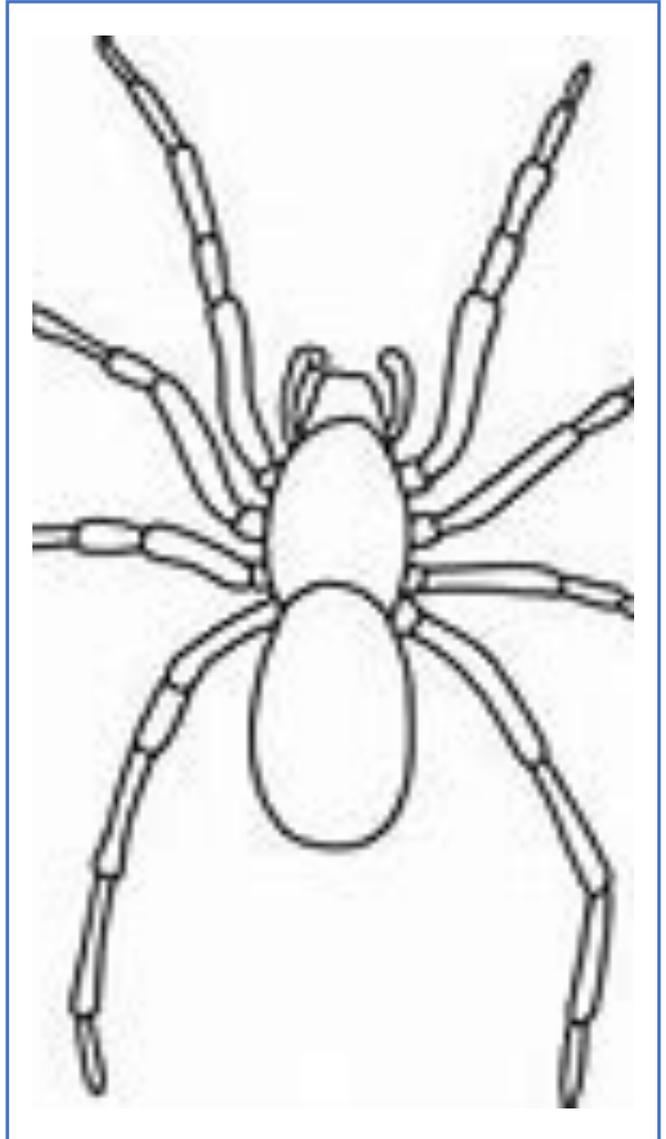
Spider Body to Mary Had a Little Lamb

Spider bodies have 2 parts, have 2 parts, have 2 parts. (2 fists)

Spider bodies have 2 parts the head and abdomen. (touching head and tummy)

Spider bodies have 8 legs, have 8 legs, have 8 legs. (4 fingers each hand)

Spider bodies have 8 legs and spinnerets for silk. (twirling fingers)



And their webs....

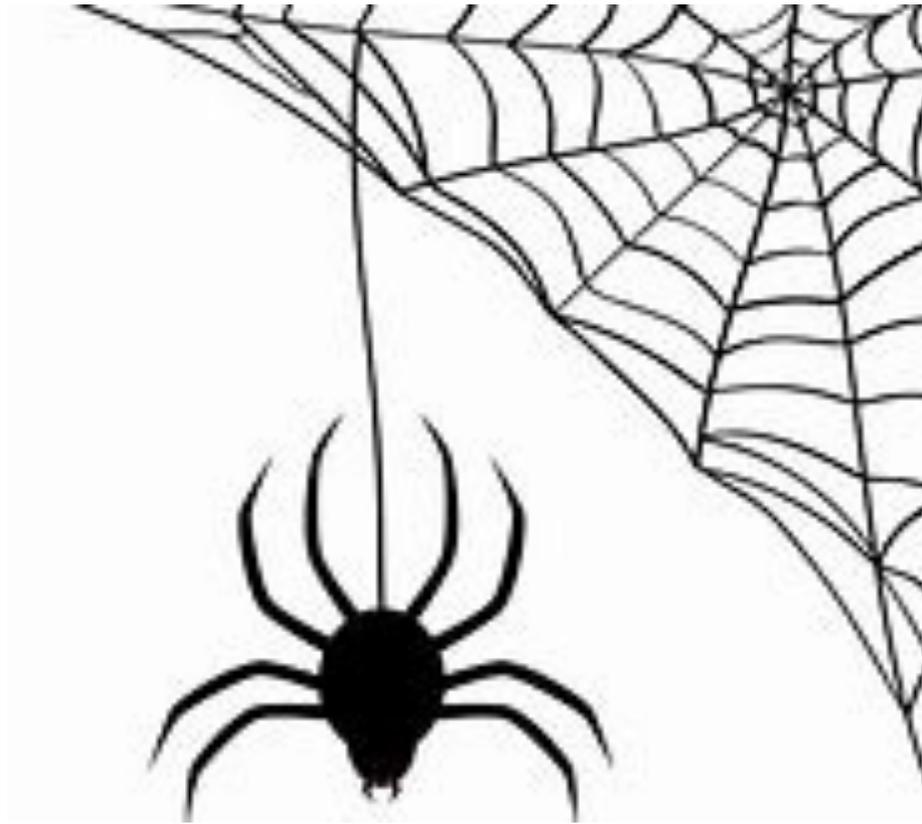
Clever Spiders



A spider's legs come from its head.



And spinnerets will make the thread



To build a web from limb to limb



And capture what bug ventures in!





Can you be a
spider
hunter?

Where can you find a spider web? In a tree? In the grass? In a corner of the room? On a window shade? Is there a spider in the web or wrapped up prey?

Let's Go Collecting Bag

Get a bag or envelope and



Glue on the net and decorate it for the Let's Go Collecting Game!



Your family can hide all the spiders around the house, and you can play the Let's go Collecting Game and try to collect all the spiders in your bag!

Spiders to hide around the house for the Let's Go Collecting Game



You can weave a web in a tree!

Get some string or yarn and loop it around twigs in the tree to make a web.



Make your own spider webs!

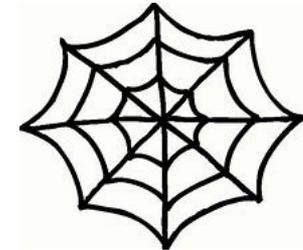
Giant spider web

Use a skein of yarn or roll of ribbon or spool of thread and weave web threads between chairs.

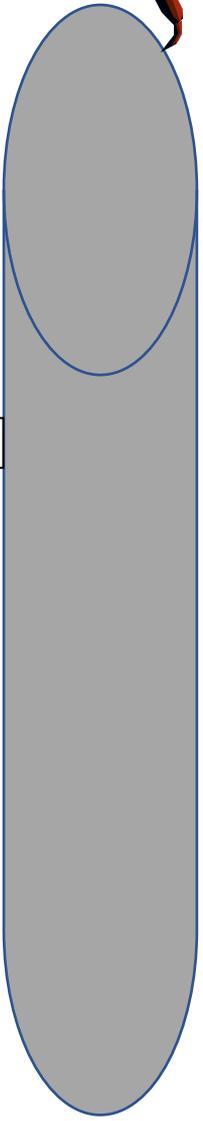
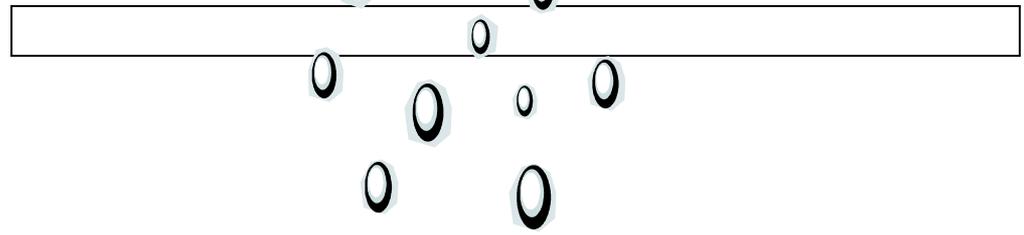
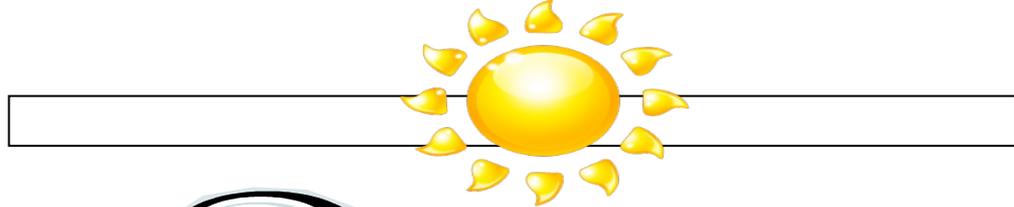
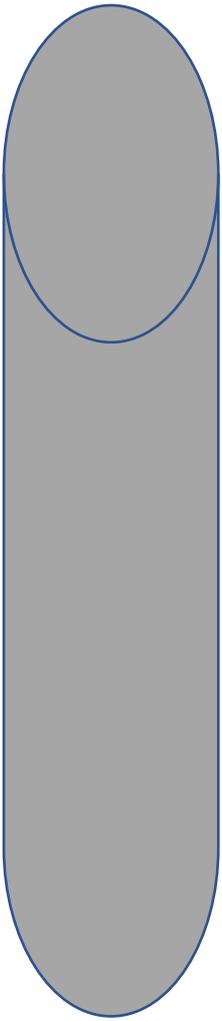


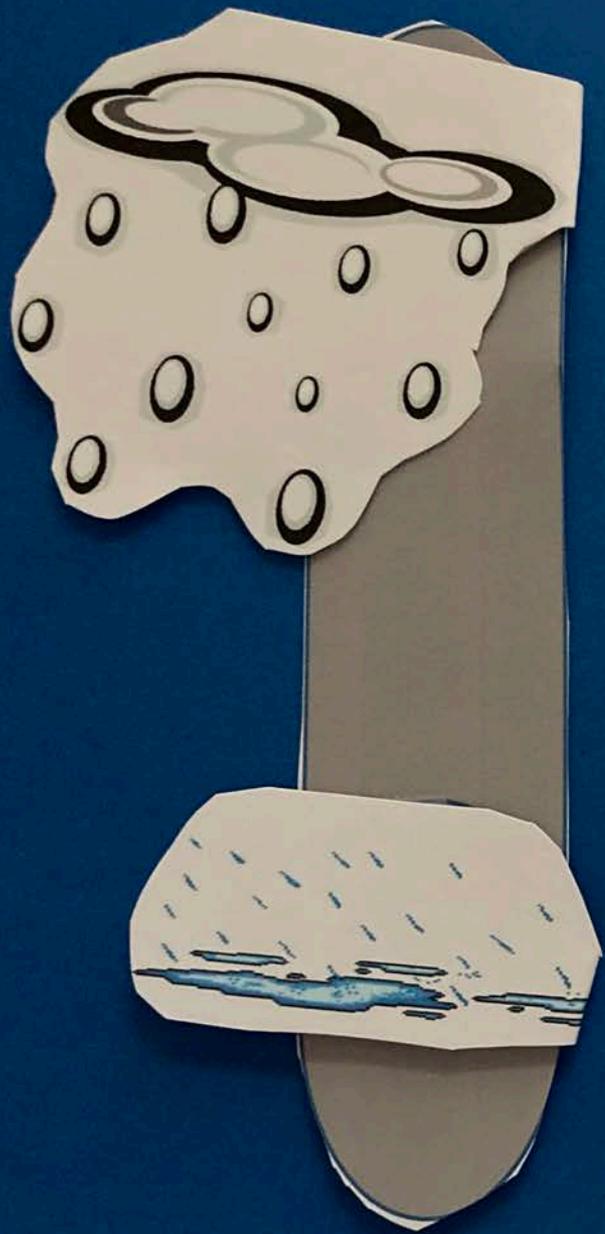
Spider web snack

You can make your web from a squeeze bottle of dressing or ice cream topping and place raisins or nuts or seeds to be the flies caught in the web.

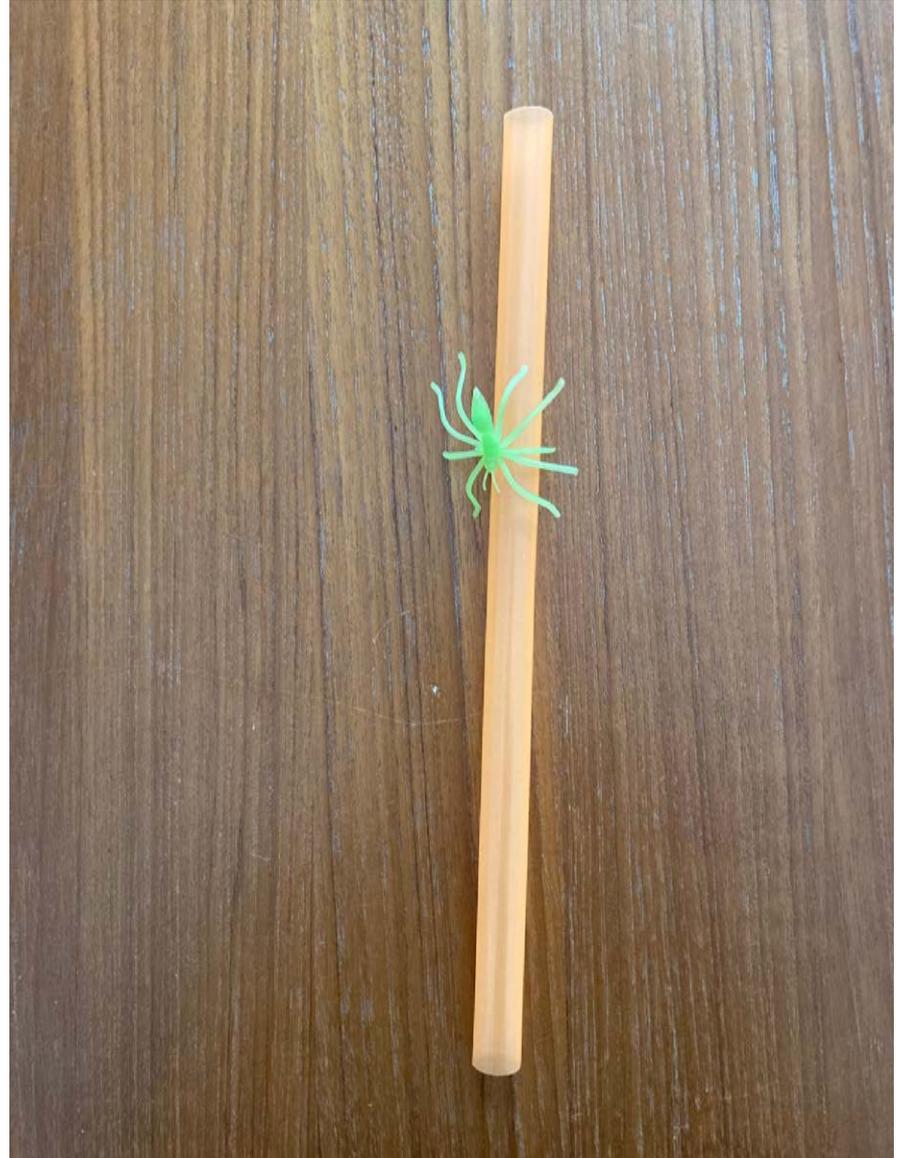


Itsy Bitsy Spider--popsicle stick with sun and cloud glued on front and back on top and puddle on the bottom and spider ring to slide up and down. You can also make sliding cloud and sun to move up and down. Connect the tabs to make a ring for sliding..





Itsy bitsy
spider with
a smoothie
straw and
spider
ring!



Make an edible spider!

- Take a sandwich cookie and separate the halves. 
- Place the cookies together slightly overlapping so they stick together.



- Add 2 raisins for eyes.



- Add 8 pretzel sticks for legs.



- Surprise! A spider!



I made a spider from candy, pretzels and chocolate chips, and made a spider 2-part body from a cookies.

I could have used cucumber or carrot sliced and thin slices of green peppers for legs, pedipalps, and chelicerae.

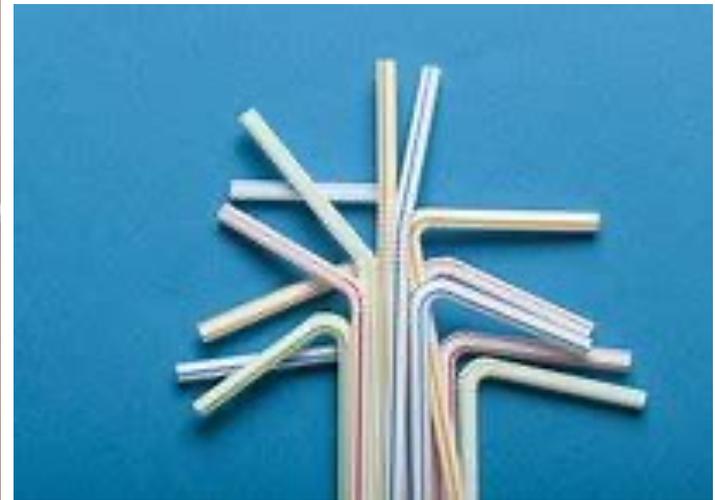




What are other things you can use to make edible spiders?



What can you use for your web and insects?

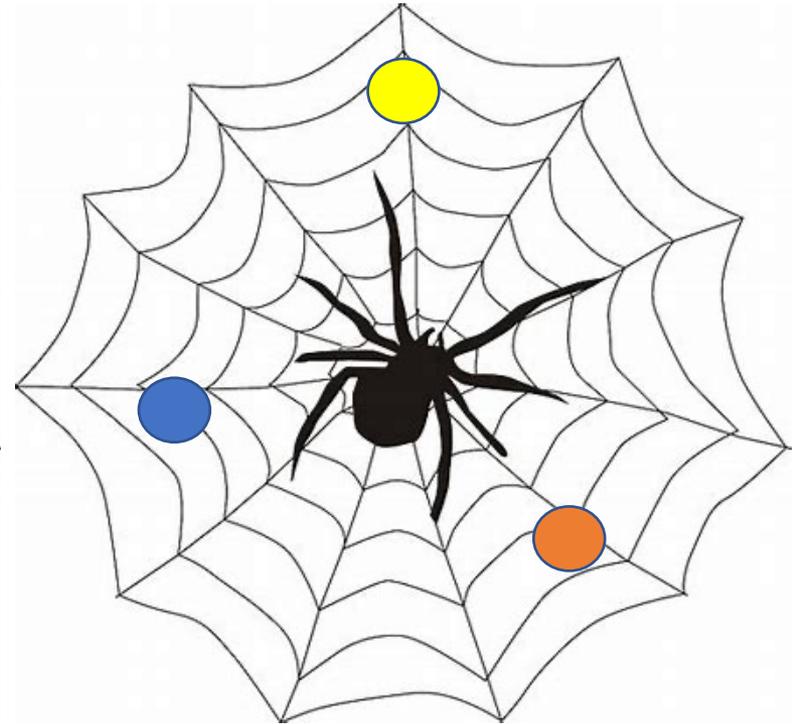
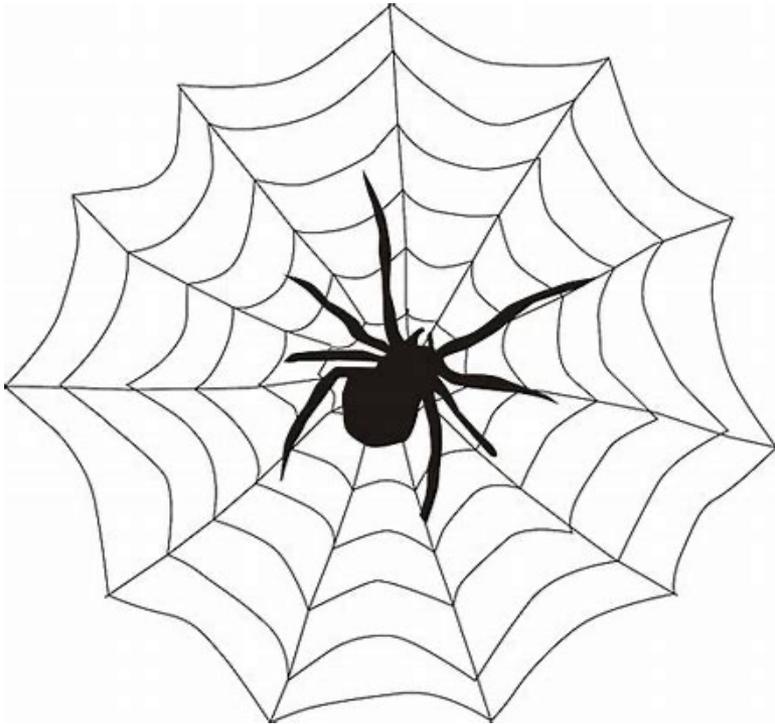


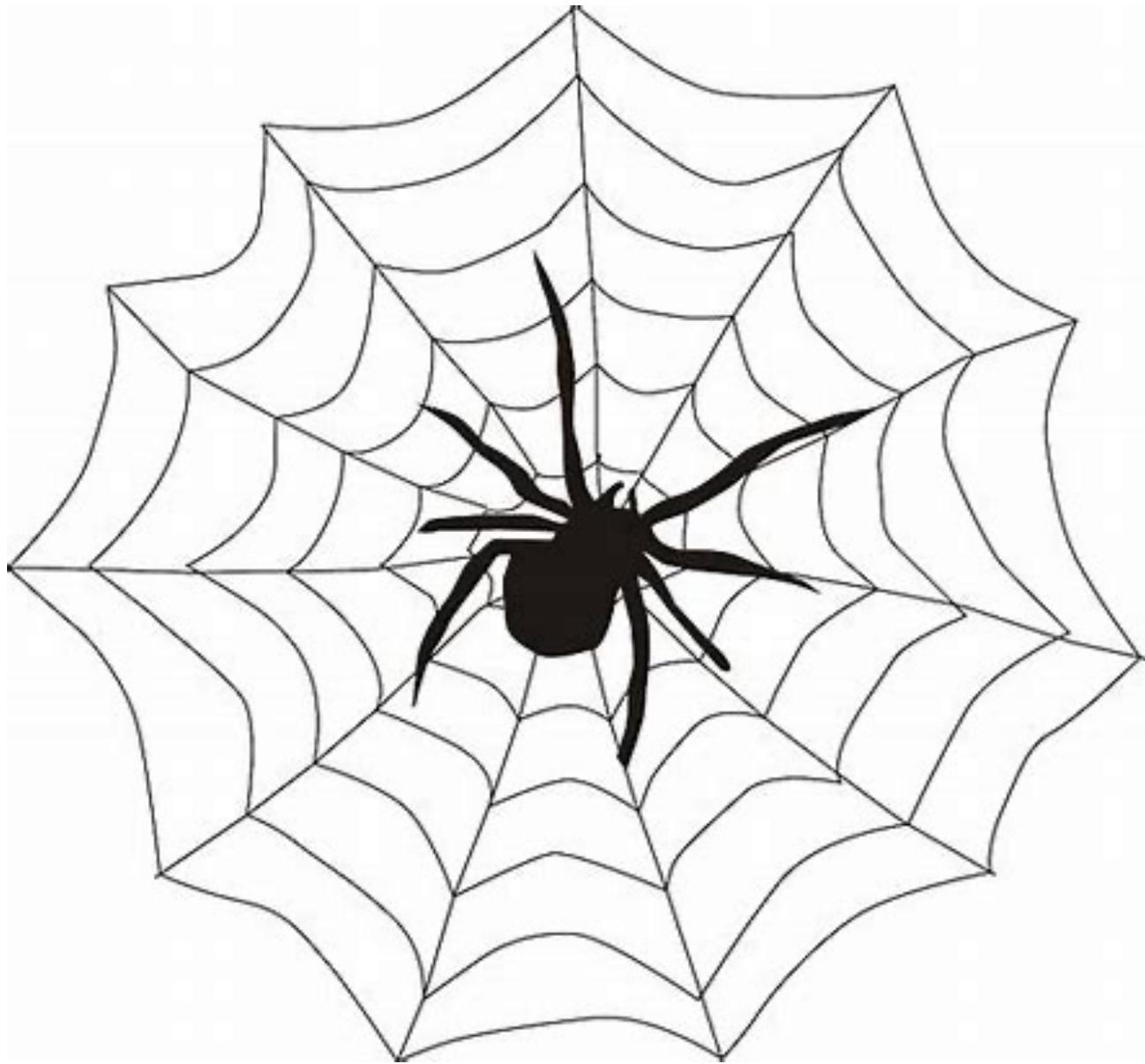
What are some ways to create a spider? How is the yarn like a spinneret?

Spider art
for little
hands
with a
spider
ring!



You can decorate the web with dot markers for the insects.

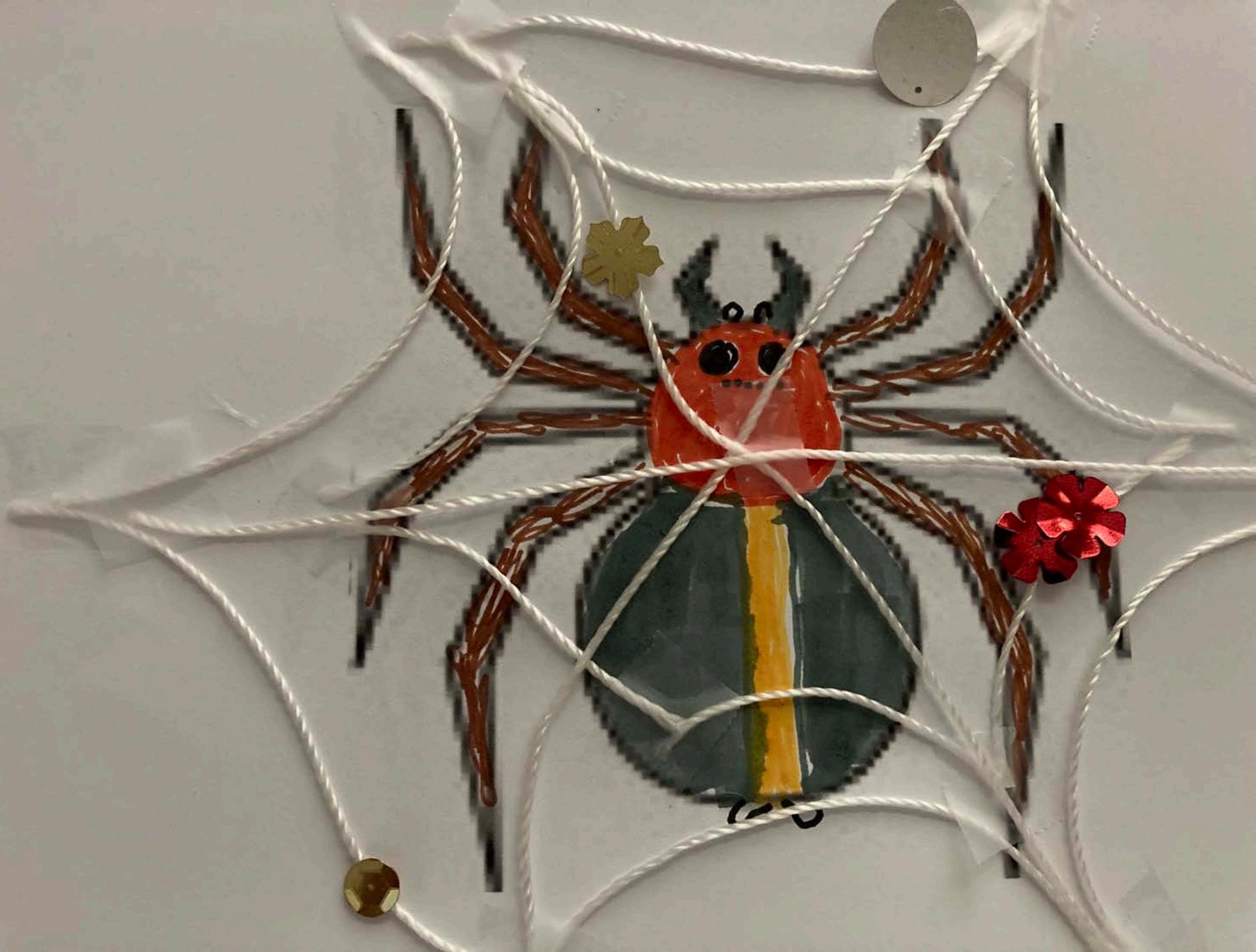




Decorate your spider and make a web out of yarn or string or thread!

- First decorate your spider.
- Now use thread, string, yarn or ribbon to make a web.
- Beads or sequins can be the insects trapped in the web.





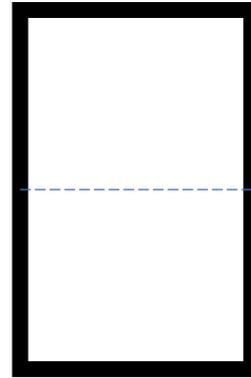
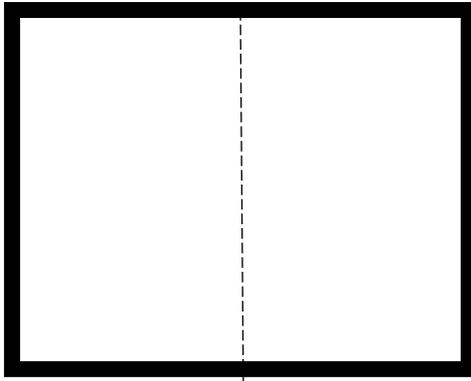
You can imagine your spider!

And add a string web and bead bugs!



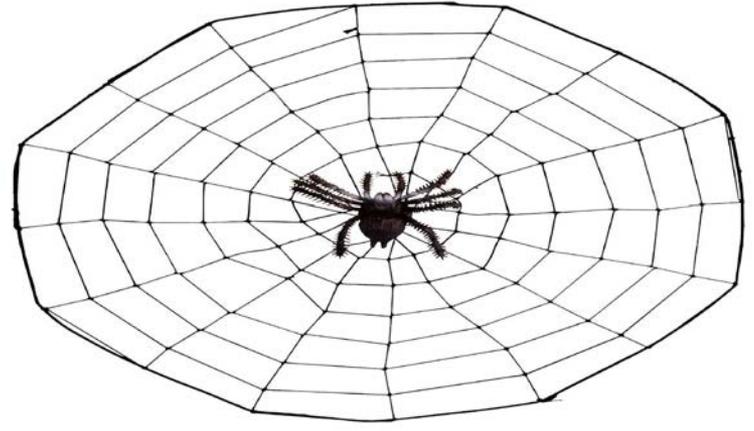
You can make a mini-book!

- Fold the paper in half
- Then in half again.

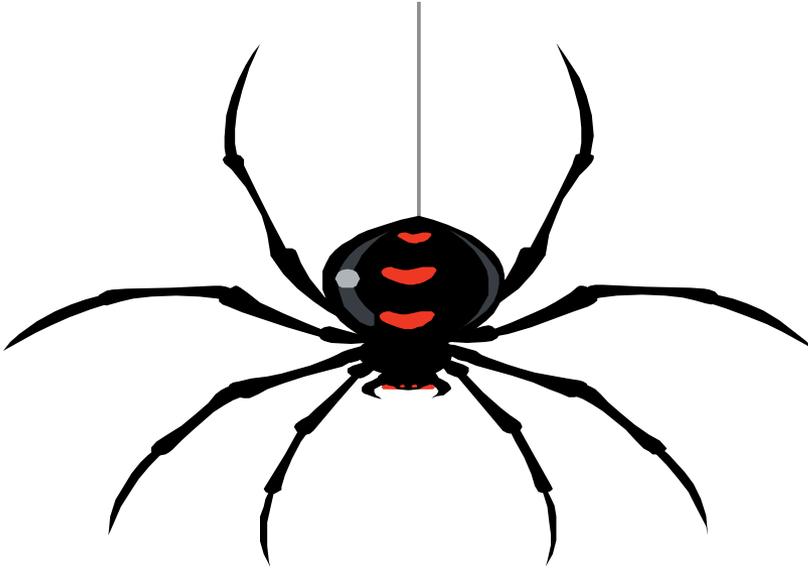




Catch insects



Weave webs



Spiders

Diary of a Spider teaches us how spiders live, and Anansi the Spider is an example of a folktale.

<https://www.youtube.com/watch?v=et9oHM62UF4>

<https://www.youtube.com/watch?v=NMBnKh5LS7E>

