

ARTHROPOD BAG

The following items should be in the bag, if they are not let someone in education know. If you discover a new problem with any biofact (broken pieces, loose teeth, etc.), it is your responsibility to let the staff know **and** make a notation with the date, time and your name on the sign out clipboard.

Note: Please return all items to their appropriate place on the cart, and make sure lids and bungee cords are secured. Things should be left exactly as you found them.

Note: Do not try to open the Lucite containers with the food. We are trying to prevent animals from getting into the bone room.

ARTHROPOD BAG INVENTORY

- 2 Tarantula Molts in containers
- 2 Paper Wasp Nest in containers
- Box of 12 Bugs in Lucite
- Caterpillar/Butterfly Metamorphosis Toy
- Plastic Black Widow Spider
- Arthropod Resource Notebook

ARTHROPOD TALKING POINTS

Paper Wasp Nest

Paper wasps build umbrella-shaped wasp nests suspended underneath eaves and overhangs. The queen uses her mandibles to scrape bits of wood fiber from a nearby tree. She then breaks the wood fibers down in her mouth, using saliva and water to weaken them. The wasp flies to her chosen nest site with a mouth full of soft paper pulp.

Construction of the wasp nest begins with a suitable support such as an eave. The queen adds her pulp to the support. As the wet cellulose fibers dry, they harden and produce a tough protective covering for the nest.

The nest itself is comprised of hexagonal cells in which the eggs are laid and the young will develop. The queen protects the brood cells by building a paper envelope, or cover, around them. The nest expands as the colony grows in number, with new generations of workers constructing new cells as needed. Source: *The Insects: An Outline of Entomology*, P.J. Gullan and P.S. Cranston, 2008

The **chelicerae** act like a pair of jaws and are used to tear their food apart. They are located on each side of a tarantula's mouth and each has a fang, which are parallel to each other. They are vertical and point downward making it necessary to raise its front end to strike forward and down onto its prey. Some tarantulas use their chelicerae to dig burrows.

One notable difference between tarantulas and "true spiders" are the fangs. True spiders have fangs that cross in front like scissors, while tarantulas' fangs fold under like cats' claws.

The **pedipalps** work like arms; the pedipalps find, hold and bring their food to the tarantula's mouth. Each pedipalp tip has special hairs that help a tarantula smell and taste.

All tarantulas produce silk through the two or four **spinnerets** at the end of their abdomen. (A typical spiders averages six) The silk is produced in a liquid form, which is then extruded through the spinnerets and hardens on contact with the air to become a threadlike substance. Arboreal species will typically reside in a silken "tube tent", while other species will line their burrows with silk to stabilize the burrow wall and facilitate climbing up and down or make silk covers for their burrow entrances as a defense.

