INSECT & SPIDER PUZZLES

Keep Omaha Beautiful

Description:

Students use insect and spider body part pieces to learn the basic anatomy of insects and spiders.

Objective:

Students will learn the basic anatomy of insects and spiders. Students will prepare for live observations and basic identification of local insects and spiders.

Standards:

- **SC.2.7.2.C -** Make observations of plants and animals to compare the diversity of life in different habitats. Assessment does not include specific animal and plant names in specific habitats.
- **LA X.1.5 -** Acquire new academic and content-specific grade-level vocabulary, relate to prior knowledge, and apply in new situations.

Materials:

- Photos of honeybee & garden spider
- Large insect puzzle pieces (*head, thorax, abdomen, 6 legs, 2 antennae, 2 eyes*)
- Large spider puzzle pieces (*cephalothorax, abdomen, 8 legs, 8 eyes*)
- Optional: copies of student handout sheets, scissors

Background Info:

INSECTS:

As adults, insects have 3 pairs of legs (6 total) and 3 distinct body parts. Insects also have 2 antennae, compound eyes, a distinct mouth adapted for their food, and frequently two pairs of wings.

The three main insect body parts are the **head**, **thorax**, and **abdomen**. The head contains the **antennae**, **eyes**, and **mouthparts**. Antennae are flexible appendages used to sense the environment. Many insects can sense smells, temperature, and humidity with their antennae. Some insects, such as bees, can even detect sound with their antennae.

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Background Info Continued:

INSECTS CONTINUTED:
The thorax is the middle body part to which the legs and wings are attached.

The abdomen contains digestive and reproductive organs.

The sides of both the thorax and the abdomen are lined with tiny openings called spiracles, through which an insect obtains oxygen.

SPIDERS:
Spiders have 4 pairs of legs (8 legs total) and 2 body parts. The 2 main body parts are the **cephalothorax** and **abdomen**. All spiders also have fang-like **chelicerae**, antenna-like **pedipalps**, and **spinnerets**.

The cephalothorax is the first of 2 body parts on a spider. It is a combination of the head and thorax, and on it the legs, eyes, pedipalps, chelicerae, and other mouthparts. The chelicerae are a spider's jaws. They are located on the very front of a spider's cephalothorax. Spiders do not actually drink fluid through their fangs. Located behind the chelicerae are other small mouthparts, which work to direct food into the spider's mouth. A spider's pedipalps are also part of its mouth and are located just between the chelicerae and first pair of legs. Pedipalps are jointed, and look somewhat like small legs. However, they are more like antennae than legs: pedipalps help the spider sense objects that it encounters. Some spiders use their pedipalps to shape their webs and to aid in prey capture and feeding. Pedipalps are used by male spiders to transfer sperm to female spiders. A spider's eyes are also located on the cephalothorax - most spiders have 6 or 8 simple (not compound) eyes.

The spider's abdomen contains many important internal organs, such as the digestive tract, reproductive organs, and lungs. On the end of the abdomen are the spinnerets, which produce silk through tiny pores.

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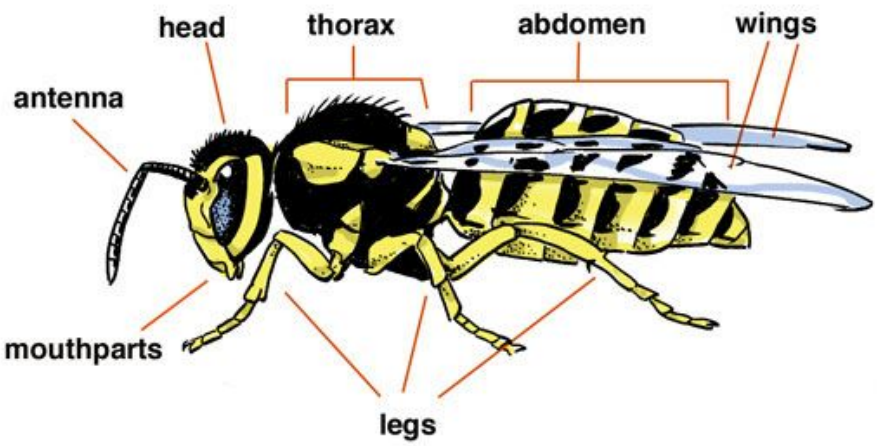
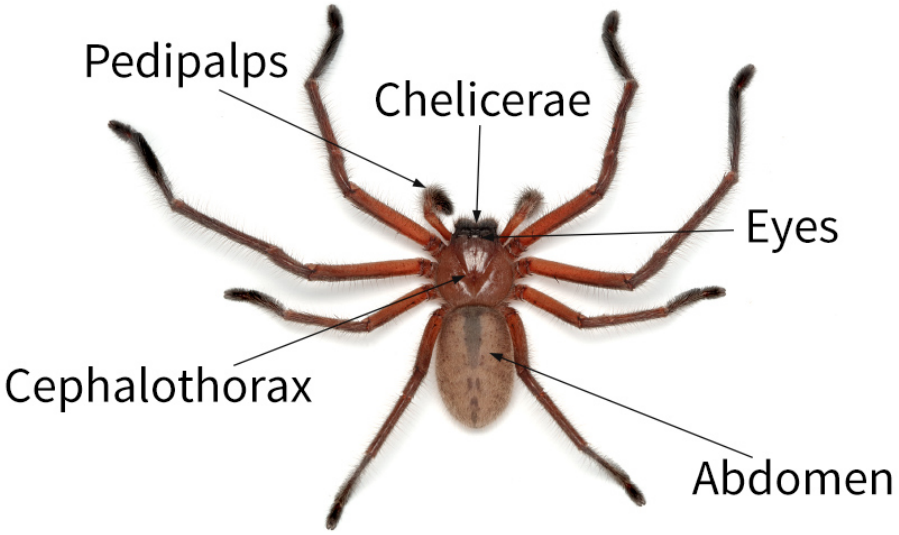
Background Info Continued:

INSECT ANATOMY



SPIDER ANATOMY



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Activity:

1. Show students the photos of the honeybee and the spider. Ask them which one is which. Most students will be able to tell the difference. However, since both images show creatures that are black and yellow, students will have to use other clues to guide them to understand which is the insect and which is the honeybee.

2. Ask the students how they know which is the spider and which is the honeybee. Make a comparison chart on the board or on chart paper. Guide students to understanding the following:

- Honeybees are insects. They have 6 legs, 2 antennae, 2 compound eyes, and 3 body parts. Most adult insects also have wings.
- Spiders are arachnids. They have 8 legs, 2 body parts, and usually 8 eyes. Additionally, most spiders can make silk (even though not all create a web) so they have spinnerets. Your chart might look something like this:

	Spiders	Insects
Legs	8	6
# of main body parts	2 - cephalothorax, abdomen	3 - head, thorax, abdomen
Eyes	8	2
Other	Spin webs	Sometimes adults have wings (think butterflies and honeybees - but ants don't!)

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Activity Continued:

There are two options for the next step. You can do just one of the options or both.

Option 1: If your classroom uses centers or stations, place the large insect and spider puzzles at the station.

- Provide students with the photographs as reference and ask them to assemble one insect and one spider with the correct body parts.
- You can make this easier by clearly putting the insect body parts in one pile and the spider body parts in another. You can make it more challenging by mixing all the body parts together.

Option 2: Provide each student with a Spider Puzzle and an Insect Puzzle handout.

- Depending on the age of your students, you can either provide them with puzzles already cut out or you can ask them to cut out the anatomy pieces by cutting along the outer lines.
- Ask students to assemble their insect and their spider. Students should glue their completed creatures to a piece of construction paper.
- Students can then decorate their insects and spiders by coloring in their assembled puzzles.

Assessment:

- Completed student puzzles.
- If you would like an additional assessment, ask students to draw insects and spiders after creating their puzzles. For older kids, have them label the body parts.