External Anatomy of the Grasshopper

Grasshopper Anatomy and Dissection

In this lab, you will observe the external anatomy of a preserved grasshopper, locate structures and label a diagram. Internal anatomy is optional and can be observed after you have completed the external anatomy of the grasshopper.

PreLab Questions

1. Grasshoppers belong to the Kingdom _________________, the Phylum _________________, the Subphylum ____________________________, and the Class ______________________________

2. Use what you know about classification to determine which of the following pairs is MOST closely related. [Grasshopper & Crayfish] or [Grasshopper & Spider] or [Grasshopper & Housefly]

3. What kind of skeleton does a grasshopper have?______________________________

Anatomy of the Grasshopper

Use specimens or pictures to examine a grasshopper.

1. Locate the segments on the abdomen. How many segments does your grasshopper have? __________ Compare this number to other grasshoppers in the class. Do they all have the same number of segments?

2. Note the thorax. It is the center area to which all appendages attach. The hard covering of the thorax is called the carapace.

3. Locate the antenna. Is the antennae branched or unbranched? _____ How many antennae are there? ______

4. Locate the compound eyes. How many eyes does the grasshopper have? ______

5. Locate the grasshopper's legs. To what part of the body are they attached? ______________ (head, thorax, or
abdomen).
How many pairs of legs does the grasshopper have? __________
How many jumping legs are there? __________
How many walking legs? _______

6. Notice the claws at the end of the legs. Do both sets of legs have these claws? ___

7. Locate the wings of the grasshopper. There are actually two sets of wings one on the top and one underneath. The top wing is called the forewing and the bottom wing is called the hindwing. Which wing seems the most fragile? ___________________

8. Turn the grasshopper over and view the mouthparts. Find the outside most plate (like an upper lip) which is called the labrum, its opposite is the lower plate (lower lip) called the labium. The moveable mouthparts that look like antennae are the maxilla. Locate them. The mandible is located under the maxilla and is used for chewing. Does the mandible open from top to bottom or from side to side? ________________ Label the labrum, maxilla, and mandibles on the picture. Also label the compound eyes and antennae.

9. ________________

10. Raise the wings to find the disk shaped tympanum underneath. The tympanum functions as an eardrum. How many tympanum are found on the grasshopper? _____

11. Look at the abdomen and fine the row of holes along it; these are the spiracles and they function in respiration (breathing). How many spiracles do you count? _______

12. The sex of the grasshopper can be determined by looking at the lest segment of the abdomen. Females have a large pair of pointy structures called the ovipositor, which are used to deposit eggs into soil. Is your grasshopper a male or a female? ________
Grasshopper Coloring

- Walking Leg
- Hindleg
- Antenna
- Thorax

- Jumping Leg
- Forewing
- Halteres

- Claws
- Typanum
- Labrum
- Carapace
- Spiracles
- Head

*Choose a color for each structure, color the box and the structure.