

# GRASSHOPPER ANATOMY & DISSECTION

**Introduction:** In this lab, you will observe the external anatomy of a preserved grasshopper. Anate structured and label a diagram. Internal anatomy is optional and can be observed after you have completed the external anatomy of the grasshopper.



**Pre-Lab Questions** (Use your book or other references)

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. Check the boxes as you complete each step.

☐ 1a. 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? \_\_\_\_\_

☐ 1b. Note the thorax. It is the center area to which all appendages attach. The hard covering of the thorax is called the carapace.

☐ 1c. Locate the antennae. Is the antennae branched or unbranched? \_\_\_\_\_. How many antennae are there? \_\_\_\_\_

☐ 1d. Locate the compound eyes. How many eyes does the grasshopper have? \_\_\_\_\_

☐ 1e. Locate the grasshopper's legs.

To what part of the body are they attached? \_\_\_\_\_ (head, thorax, or abdomen).

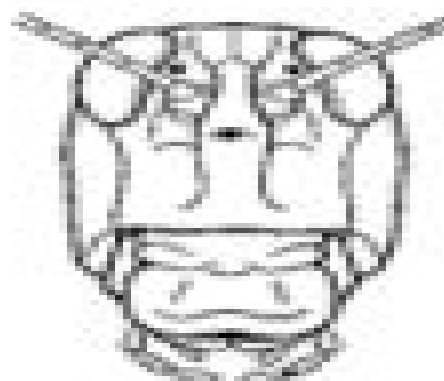
How many pairs of legs does the grasshopper have? \_\_\_\_\_

How many jumping legs are there? \_\_\_\_\_. How many walking legs? \_\_\_\_\_

☐ 1f. Notice the claws at the end of the legs. Do both sets of legs have these claws? \_\_\_\_\_

☐ 1g. 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? \_\_\_\_\_

12. 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 maxillae. 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.

# Grasshopper Pre Lab Instructor Answer Key

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**Genetics : Laboratory Manual** Albert McCombs Winchester,1958 **Journal of Education** ,1884 USDA. United States. Department of Agriculture,1947 *California Cultivator* ,1902 **Monthly Catalogue, United States Public Documents** ,1976 *English Mechanic and World of Science* ,1897 **The Northwestern Miller** ,1926 **English Mechanic and Mirror of Science** ,1897 **Parliamentary Debates** Australia. Parliament,1938

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