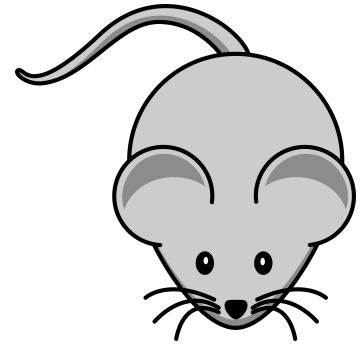


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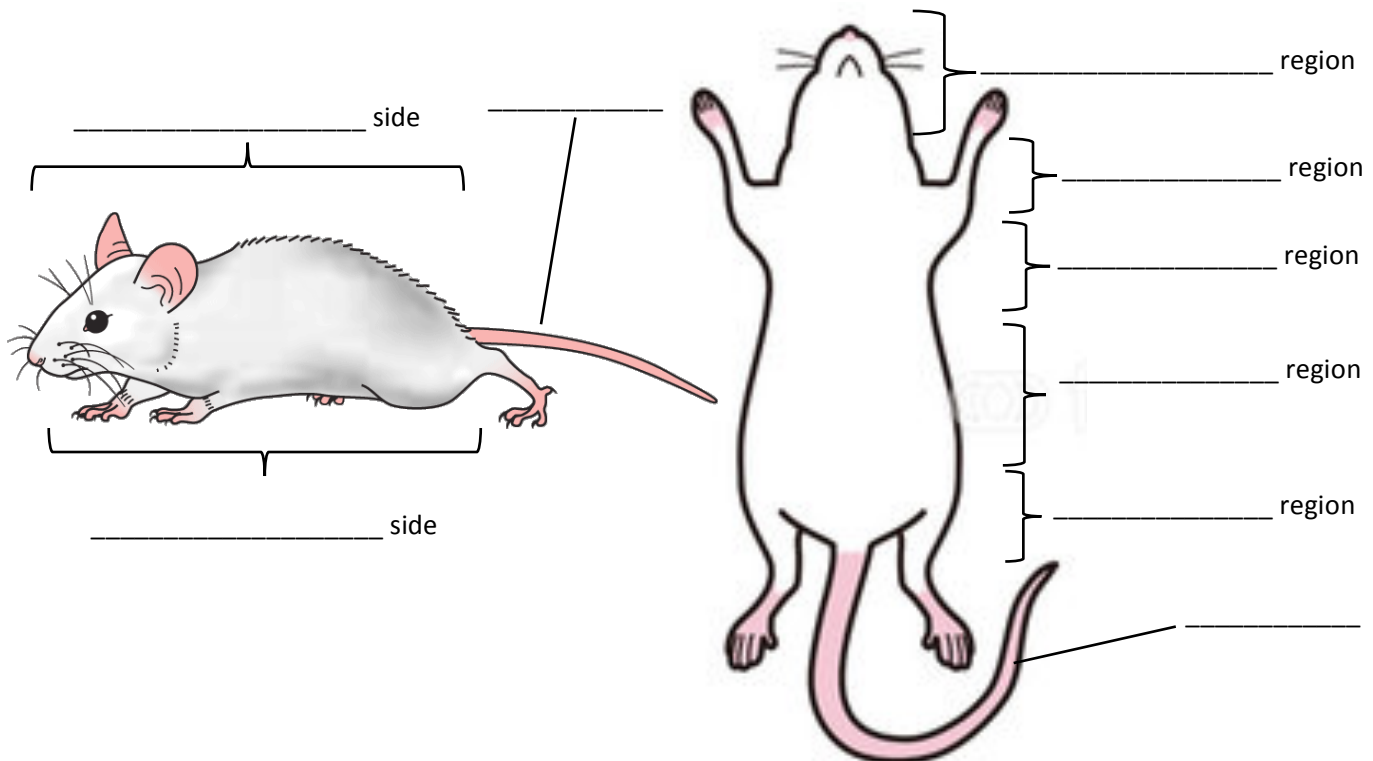
Field Mouse Dissection



The field mouse is a small mammal that has many anatomical structures that are similar to human structures, however much smaller! Because the mouse is a mammal like humans, it is warm blooded and has a four-chambered heart. It is also a vertebrate animal, like humans, frogs, and fish, and therefore has a spinal cord connected to its brain. In this lab, you will observe both the external and internal anatomy of a field mouse to observe the best representation of human anatomy.

Day 1: External Anatomy and Muscular System

1. Obtain your mouse. Observe the following anatomical regions: the ventral side (belly), the dorsal side (back), the cranial region (head), pectoral region (area where front legs attach), thoracic region (chest area), abdominal region (belly area), pelvic region (area where the back legs attach), tail (...the tail..obviously). Label the regions and areas on the two diagrams below.



2. Make the following external anatomy observations. Then label them on the diagram on the next page.
 - a. The mouse has a fur (a mammalian trait) and has sensory hairs (whiskers) located on the face. These are called vibrissae.
 - b. The ears are composed of the external part, called the pinna, and the auditory meatus, the ear canal.
 - c. Observe the eye of your mouse. Mice and other rodents have large pupils causing their eyes to appear black. Locate the nictitating membrane found at the inside corner of the eye. Like the frog, this membrane can be drawn across the eye for protection, however the frog's nictitating membrane is much thicker and more obvious than the mouse's
 - d. Next sex your mouse. First locate the anus on the ventral side of the mouse near the base of the tale. Determine if testes (male gonads) are present. If yes, then your mouse is male; if no, then your mouse is most likely female.

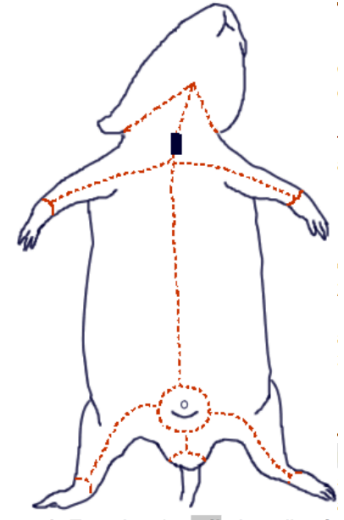
Observed External Anatomy Structures:

Mouse is Male or Female (circle one!)



3. **Skinning the Mouse:**

You will carefully remove the skin of the mouse to expose the muscles below. This task is best accomplished by making a small incision with your scalpel and then using your dissecting probe or scalpel to separate the connective tissues that connect the skin to the first layer of muscles. Do not cut into the muscles! You can start at the incision point with your scalpel and continue toward the tail. Using your scissors, cut the SKIN ONLY. Use the lines on the diagram to the right to cut a similar pattern, avoiding the genital area. Gently peel the skin from the muscles, using scissors and a probe to tease away muscles that stick to the skin.



4. Identify the following muscles in your mouse. Draw and label the muscles on the mouse diagram below.

- Biceps brachii – located on the anterior (front facing) of the humerus (arm). Action: flexes lower arm
- Biceps femoris – located on the side of the femur (thigh), in two bundles.
Action: flexes the lower leg
- External oblique – located on the sides of the abdomen.
Action: flexes the body wall
- Pectoralis major and minor – located in the chest area
Action: adducts arm, draws outstretched arm toward center of the body

