

# CHICKEN WING DISSECTION

## BACKGROUND

Certain principles of muscle function help us to understand bone-muscle relationships. First, skeletal muscles contract only if they are stimulated by the nervous system. Second, skeletal muscles usually produce movements by pulling on bones across joints. The bones serve as levers and the joints serve as fulcrums. Third, muscles usually lie next to the bones they move, and finally the muscles usually act in groups.

1. Gather dissection materials, tray, scissors, gloves if desired, and chicken wing.
2. Carefully extend the wing to find out how many major parts it has.
3. In the space below draw a sketch of the wing. Which part of the wing can be compared to your upper arm? Lower arm? Hand?
  
4. Use the scissors to cut the skin. Try not to cut the muscle beneath the skin. Remove as much skin from the thickest portion of the wing as possible, exposing the underlying muscle. Notice the whitish covering enclosing the muscle fibers. This is called **fascia**, a type of connective tissue. What do you think its main function is?
5. Observe the muscle. The muscles are bundles of pale pink tissue that surround the bone.
6. Find the two groups of muscles in the upper arm. Hold the arm down at the "shoulder", and alternately pull on each muscle group. Observe what happens. Record below.
  
7. Find the two groups of muscles in the "lower arm". Hold down the arm at the elbow and Alternately pull on each muscle group. Observe what happens and record below.
  
8. Notice the yellowish tissue found in small clumps on the inside of the skin. This type of connective tissue is called **adipose tissue**, or fat.
9. Carefully remove any remaining skin from the elbow joint.
10. Locate a **tendon**. Tendons are shiny white tissues at the ends of the muscles that attach muscles to bones. Notice that the tendon crosses the joint.
11. Locate a **ligament**. Ligaments are shiny white tissue that attaches bone to bone.
12. Separate the joint at the elbow and observe the covering of the ends of the bones. This white semi-opaque covering is **cartilage**. It cushions the ends of the bones and helps the joint move smoothly. What do you suppose happens if the cartilage tears or wears away?

## **CLEANUP**

Put chicken wings in designated container. Put scissors in container of soapy water. Stack trays on counter. Wash your hands thoroughly with soap and water.

Answer the following questions.

1. How does muscle tissue differ from tendon tissue?
2. What do you suppose is the function of adipose tissue?
3. The chicken is not capable of sustained flight. Why do you think this is so? In the chicken, where is most of the muscle strength located?

Other cuts of meat from the grocery store can provide study of more complex bones, muscles and cartilage. Spare ribs show intercostal cartilage attaching to ribs and the two groups of intercostal muscles.

Turkey necks, boiled and with the meat removed show how vertebrae articulate (fit together) with each other as well as the spinal cord running through the center of the vertebrae and perhaps spinal nerves branching out between the vertebrae.

A sheep's kidney is very similar to the human kidney.

Beef tongue shows the differing types and location of taste buds. If cut in cross section, skeletal muscle can be observed.