A Closer Look at Muscles Lab



**Problem:** How do muscles work? What are some characteristics of muscles?

**Data Table:**

(create this data table in your notebook…make it big so you can draw diagrams in it!)

|  |  |
| --- | --- |
| **Diagrams** | **Observations** |
| Extended wing | Muscles in the upper arm |
| Muscles in the wing | Muscles in the lower arm |

**Procedure:**

1. Put on gloves and goggles
2. Get a chicken wing from Ms. Emigh
3. Clean it with water (rinse it)
4. Place the wing in a dissection tray
5. Pat the wing dry with a paper towel
6. Gently bend the wing straight (see picture below)
7. In your data table, draw a picture of the wing
8. Label your picture with the parts of the wing: lower arm, elbow, upper arm, and hand (wing tip) Hint: The upper arms is the thicker part of the chicken wing
9. Examine the muscles of the chicken wing
   1. Use scissors to cut the skin. Be careful to ONLY cut the skin
   2. Peel the skin back so you can see the muscles
10. Find the upper muscles of the wing
    1. Find the two muscle groups in the upper part of the wing. The muscles are the pink tissues around the bone
    2. Hold the wing down by the shoulder and move the wing tip back and forth slowly. Watch how the muscles move. Record your observations in your data table.
11. Find the lower muscles of the wing
    1. Locate the two muscle groups in the lower part of the wing
    2. Hold the sing down by the shoulder and move the wing tip back and forth slowly. Watch how the lower muscles move. Record your observations in your data table.
12. Find the tendons
    1. The tendons are the shiny white tissues at the ends of the muscles
    2. Add the tendons to your sketch. Be sure to label them as “tendons.”
13. Find the ligaments
    1. Use your scissors to carefully remove the muscles from the bone
    2. Cut the tendons as close to the bone as possible
    3. The ligaments hold the bones together at their ends. Add these ligaments to your sketch. Be sure label them “ligament.”
14. Dispose of the chicken wing and all cut portions into the garbage.
15. Wash ALL lab equipment (including the black bin!) with dish soap and water. Rinse. Leave lab equipment in the bin to dry and return the bin to where you found it.
16. Take off your gloves and throw them out
17. Remove your goggles and put them away
18. Wipe down the table with Clorox wipes
19. Wash your hands!!!
20. Work on your lab conclusion.

**Conclusion:**

(Glue these questions into your notebook and answer below – full sentences!!)

1. Write a brief description of how the bones and muscles work together to allow movement.
2. What difficulties, if any, did you have in carrying out this investigation?
3. How does the chicken wing move when you bend it at the joint?
4. What happens when you pull on one of the wing muscles?
5. Using your sketch of the chicken wing as an example, locate the same muscle groups in your own arm. How do they react when you bend your elbow?
6. What role do tendons and ligaments play in the movement of muscles or bones?
7. Sometimes an athlete may tear a ligament. What impact could this have on his or her ability to play a sport?

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**A Closer Look at Muscles Lab – Part 2**

**Challenge:**

1. Obtain a chicken leg from Ms. Emigh
2. Using scissors, carefully remove the muscles and tendons from the bone.
3. Next, find the ligaments, which are located between the bones.
4. In your notebook, draw a diagram of the chicken bone, labeling the muscles, tendons and ligaments.
5. Describe how you think the ligaments function (do this underneath your drawing

