

**ANATOMY & PHYSIOLOGY –Research in Lieu of Fieldtrip Attendance:**

**Due Date: March 4<sup>th</sup>, Tuesday, Midnight**

**Use correct lab format in writing this lab report.**

**There are 2 sections to this assignment. Email both in one email (one attachment).**

**PART I:**

**LAB: Examination of Muscles, Tendons, and Joints in Chickens**

**Cutting apart a chicken is a good way to learn about muscle groups and how they are attached by tendons to bone. It will also give you a good look at a joint.**

**MATERIALS:**

**attached chicken thigh and leg quarter (uncooked)**

**bowl**

**bleach**

**scissors, knife**

**plastic bag for discarding the chicken**

**Safety:**

**Before proceeding, you need to take caution in working with chicken and the bacteria that may be present. Wash the chicken in a bleach and water solution ( 1 part bleach to 3 parts water) and let the chicken pieces soak in a bowl for about 5 minutes. Rinse and pat the chicken pieces dry with paper towel.**

**Also please take care in using the scissors and knife.**

**PROCEDURE:**

- 1. Place the dry chicken piece on paper towel or newspaper to protect the surface you are working on.**
- 2. Feel and examine the tough tissue that covers the outside. Notice any bumps that might be present.**
- 3. Carefully pull off the skin. (Roll it down like you would peel off a stocking.) (You may need scissors.)**
- 4. Take a close look at the muscles. Without detaching, try to lift and separate the muscles with a pencil or probe. Notice how the muscles move.**
- 5. Flex the leg. Note how various muscles contract and relax.**
- 6. Slice through the tendons at the base of the lag. Carefully separate the muscle groups.**
- 7. Look for large blood vessels. Dissect one at each end and remove it. Take your fingers and squeeze out the contents.**
- 8. Carefully cut between the thigh and the drumstick to expose the joint. Proceed slowly and find the following parts: ligaments, fat pads, cartilage caps**
- 9. CLEAN UP.**

**CONCLUSION: Write a good conclusion that includes a discussion of what you did in this lab.**

**QUESTIONS:** Type each question in CAPS. Answer in regular script.

1. WHAT IS THE OUTSIDE LAYER OF THE INTEGUMENT CALLED?
2. WHY ARE THERE BUMPS ON THE OUTER LAYER?
3. (A) WHAT IS THE YELLOW MASS FOUND ON THE INSIDE SURFACE OF THE SKIN?  
(B) WHAT OTHER AREAS OF THE CHICKEN'S BODY DO YOU THINK THESE YELLOW MASSES WOULD BE FOUND?  
(C) WHAT AREAS ON A CHICKEN WILL PROBABLY HAVE THE GREATEST AMOUNT OF THIS YELLOW MASS?
4. AFTER YOUR EXAMINATION OF THE MUSCLES, DESCRIBE HOW THEY MOVE. INCLUDE AN EXPLANATION OF THE FOLLOWING:  
(A) DO THEY WORK TOGETHER OR SEPARATELY? EXPLAIN.  
(B) DO YOU THINK THIS SAME MOVEMENT CAN BE FOUND IN OTHER ANIMALS? EXPLAIN  
(C) HOW DOES THIS COMPARE WITH WHAT YOU KNOW ABOUT HUMAN MUSCLES?
5. (A) WHAT IS LOCATED AT THE ENDS OF THE BONES?  
(B) WHAT IS ITS PURPOSE?
6. AS A RESULT OF PROCEDURE #6 HOW MANY TENDONS AND MUSCLES DO YOU COUNT?  
(A) TENDONS?  
(B) MUSCLES?  
(C) WHAT IS THE RELATIONSHIP BETWEEN THE #s OF TENDONS AND MUSCLES? (use the web to justify this)
7. DO SOME RESEARCH AND LIST THE URL TO ANSWER THE FOLLOWING: WHY DO WE SAY THAT MUSCLES WORK IN ANTAGONISTIC PAIRS?
8. (A) WE KNOW THAT THE KNEE IS A SYNOVIAL. WHAT OTHER CLASSIFICATION CAN BE GIVEN TO THIS JOINT FOUND BETWEEN THE BONES OF THE CHICKEN LEG QUARTER?  
(B) WHAT IS THE TYPE OF MOVEMENT IN THE JOINT CALLED?  
(C) WHAT "ARTHROSES" TERM WOULD DESCRIBE THE DEGREE OF MOVEMENT IN THE JOINT?
9. (A) THE BONES IN THE CHICKEN QUARTER YOU EXAMINED WOULD BE COMPARABLE TO WHICH BONES IN HUMANS?  
(B) THE BONES IN A CHICKEN WING WOULD BE COMPARABLE TO WHICH BONES IN HUMANS?
10. (A) DESCRIBE THOROUGHLY THE LOCATION OF THE BLOOD VESSEL YOU WERE ASKED TO NOTICE.  
(B) WHY DO YOU THINK THE BLOOD VESSEL IS LOCATED WHERE IT IS?

## **PART II:**

This Research Assignment is to be done in lieu of participation in the class fieldtrip to Eastern Virginia School of Medicine. Answer the following questions in paragraph format. Most answers will require more than one paragraph. Type each question in CAPS. Your research should not look like anyone else's. Email to [ksmith@hgs.k12.va.us](mailto:ksmith@hgs.k12.va.us) by Tuesday, March 4<sup>th</sup>, midnight.

Use the following website to answer some of these questions. <http://www.evms.edu>

1. WHILE AT EASTERN VIRGINIA MEDICAL SCHOOL THE CLASS WILL BE PARTICIPATING IN A PRESENTATION CONCERNING THE LATEST RESEARCH BEING CONDUCTED IN PROTEOMICS. WHAT IS PROTEOMICS AND WHAT IS BEING ACCOMPLISHED AT EVMS IN THIS FIELD? (Use the college's website as well as a second URL to find this information.)
2. THE CLASS WILL ALSO BE INVOLVED IN OBSERVING PROCEDURES THAT OCCUR IN AN AUTOPSY. ANSWER THE FOLLOWING: (1) DEFINE THE WORD "AUTOPSY". (2) WHAT IS A PATHOLOGIST AND WHAT DOES ONE DO? (3) EXPLAIN THE FOLLOWING EXPRESSION USED BY PATHOLOGISTS – "This is the place where death rejoices to those who live." (4) WHAT ARE SOME OF THE INSTRUMENTS USED IN AN AUTOPSY? (5) Site the website(s) used.
3. Take some time and read the EVMS webpage and answer the following:
  - (1) WHY IS IT IMPORTANT FOR MEDICAL STUDENTS TO TAKE HUMANITIES COURSES IN COLLEGE?
  - (2) WHAT ARE THE TECHNICAL STANDARDS THAT CANDIDATES FOR MEDICAL SCHOOL MUST DEVELOP?
4. WHAT IS MEANT BY THE FOLLOWING STATEMENT THAT IS ON THE EVMS WEBSITE?

"Candidates should also have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other diagnostic techniques".
5. FIND A WEBSITE THAT GIVES AN UPDATE CONCERNING AIDS. LIST THE SITE AND THEN GIVE AN EXPLANATION OF WHERE RESEARCH IS NOW AND EXPECTS TO BE IN THE FUTURE AS FAR AS CONTROLLING THIS DISEASE.
6. WHAT ARE SOME OF THE MANIFESTATIONS, MEASURES OF PREVENTION AND TREATMENTS FOR RICKETS AND OSTEOMALACIA? DOES WEARING TOO MUCH SUNSCREEN HAVE ANY EFFECT?

- 7. WHEN PARENTS KEEP THEIR SMALL CHILDREN AWAY FROM OTHER CHILDREN TO PROTECT THEM FROM CATCHING ILLNESS, IS THIS NECESSARILY GOOD? WHY OR WHY NOT?**
- 8. DISCUSS FACTORS THAT WILL INFLUENCE BLOOD PRESSURE NEGATIVELY AS WELL AS POSITIVELY.**
- 9. SEARCH THE INTERNET FOR A WEBSITE THAT COULD BE BENEFICIAL AND INFORMATIVE FOR STUDYING ONE OF THE BODY SYSTEMS. LIST THE URL AND GIVE AN EXPLANATION OF THE SITE.**
- 10. DISCUSS THE IRONY OF THE STATEMENT “BEAUTY IS ONLY SKIN DEEP” IN LIGHT OF THE INFORMATION YOU LEARNED IN OUR CHAPTER ON THE INTEGUMENT.**