

Nutshell

In this lesson, students will dissect a deer leg to observe tissue types, the integumentary system, bone structure, joint anatomy, and muscle anatomy. They will then compare the anatomy observed to that of the human body.

Objectives

Students will be able to...

- Identify tissue types, parts of the integumentary system, bone structure, joint anatomy, and muscle anatomy in a deer leg
- Compare and contrast the anatomy listed above in the deer leg and its physiology to the human body.
- Create their own inquiry lab to reach a specific end-point
- Follow a multistep procedure when carrying out an experiment
- Write informative/explanative text when carrying out scientific procedures.
- Conduct short research project to answer a question.

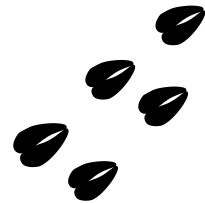
WI State and Cores Standards

Science Standards: A.12.3, C.12.4, C.12.5

Literacy in All Subjects Core Standards: WHST.6-12.2, WHST.6-12.4, WHST.6-12.7, WHST.6-12.9, RST.6-12. 3, RST.6-12.4, RST6-12.7

Materials

- Deer Legs
- Dissecting materials
- Plastic garbage bags for overnight storage
- Hand-saw to see marrow inside bone
- Copies of the student worksheet



Teacher Preparation

- Gather all needed materials for the activity
 - During hunting season, have local hunters donate the deer legs to be used in this dissection. The entire leg is not needed, but maintaining the knee joint is beneficial.
 - The legs, placed in garbage bags in the freezer, will last up to a year.
 - Be sure to properly thaw the legs before dissection.
- Assign students to work in teams of 2-4 people.
- The lab should be completed within 2-3 days before the legs become very unpleasant.
- Students should follow all instructions listed on the student lab worksheet and record all information on a separate piece of paper or in their lab notebooks.

Further Enrichment

- Following the lab, have a class discussion about how the anatomy of the deer leg compares and contrasts with that of the human leg. How does this anatomical structure then relate to the physiology and behavior of deer compared to that of human use of the leg?

Deer Leg Dissection



Name: _____

Date: _____

Instructions:

Students, you will be setting up your own lab. Read all of these instructions before you begin! Create a new page in your lab books to record all of the information needed below.

1. Complete the Prelab section. Determine your purpose for doing the lab. How will dissecting the deer leg help you understand the anatomy and physiology better of the human body? To help you out, a list of all of the anatomy you will need to locate in the deer leg is listed. Make a list of all of the materials/supplies you will need to complete this dissection in order to identify the anatomy listed below
2. Complete the “In Class Lab” portion. Remember, your team is creating the procedure as you go along in the inquiry lab. There is not a step-by-step process created for you. Write down the procedure your team used to discover the anatomy listed below.
3. All of the anatomy listed below in the “Anatomy to Identify” section must be observed in the lab and documented in your lab report. You may document the anatomy by sketching the structures as you see them on the deer leg or by taking a photograph of each anatomical element and including them in your report.
4. Complete the Results and Analysis & Conclusion sections of the lab by following the directions in each section below.

Anatomy to identify:

- tissue types (epithelial, connective, muscle)
- integumentary system (skin layers, nails, hair and follicles)
- bone structure (parts of a long bone and possible names)
- joint anatomy (find parts that make up the joints in the leg/foot: tendons, ligaments, articular cartilage, synovial fluid)
- muscle anatomy (insertion, tendon, belly)

Pre-lab:

Purpose:

How will dissecting the deer leg help you understand the anatomy and physiology better of the human body?

Materials

Think hard!...list all materials needed for your lab and their amounts!

In Class Lab:

Procedure

Record on your own paper a step by step procedure as you are carefully dissecting the deer leg. Record every move you make and what you want to find.

Results

Sketch, color, and label all anatomy you observe that is related to the anatomy listed above on your own paper Include a label and written description beside each sketch.

Analysis and Conclusion

Include a summary describing how all of the anatomy listed in the objectives above work together in the body of the deer.

Include a summary describing how all the anatomy you identified work together in the body of the deer. Also discuss your thoughts about the lab. How are the tissues and anatomy different on a real mammal compared to the pictures in the text book? What did you find surprising? What fascinated you about the deer leg and why?

