

Human Anatomy and Physiology I Laboratory Manual

Lab 1 – Lab Safety and Anatomical Terminology Worksheets

BIOL 2201
Newport Campus

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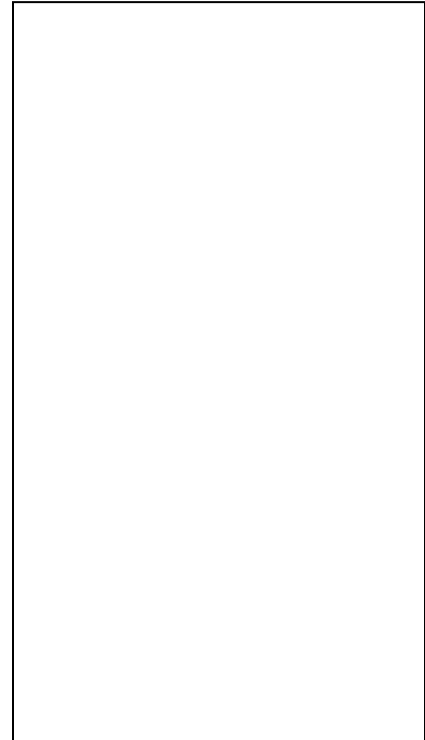
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ANATOMICAL POSITION:

To begin, follow the instructions provided to create a clear visual reference you can use during today's activities.

- Draw a simple outline of a human body.
in proper anatomical position within the box provided.
- Include proper orientation of the head, arms and hands.
- Add a vertical midline to your picture which divides the body into equal right and left halves.
- Label the "right" and "left" sides of the person. Remember the person is our "specimen", so it is the person in the picture's right and left not ours.



⇒ What term made from two zoological roots describes human anatomical position? **Hint – think in terms of locomotion.**

⇒ What term made from two zoological roots describes a cat's anatomical position? **Hint – think in terms of locomotion.**

ANATOMICAL TERMINOLOGY FOR DIRECTION:

Go to the Lecture resources on Blackboard. Under introductory materials, you will see “directional nomenclature and the planes supplement CCRI PowerPoint”. Please watch the Camtasia for this PowerPoint and fill in the blanks. Using that filled in PowerPoint learn the following list of anatomical terms as they apply to a human and a cat. You should also use lab skeletons and your own body for reference.

Each of the paired terms has a specific point of reference on the body. When we use these terms we are saying that one structure is closer to or farther from that point of reference than is a second structure. It is a relative comparison.

Complete the definition of each term using simple words that identify the point of reference.
No two definitions will be the same. **Indicate whether the terms are for cats, humans, or for both.**

Some terms have a point of reference that can be used on any portion of the body, axial (skull, vertebrae, sternum, ribs) or appendicular (bones of appendages & girdles).

Anterior = Closer to the _____

Posterior = Closer to the _____

Medial = Closer to the _____

Lateral = Closer to the _____

Ventral = Closer to the _____

Dorsal = Closer to the _____

Superficial = Closer to the _____

Deep = Farther from the _____

Some terms use a point of reference that is only meaningful on the axial skeleton, such as **cranial/caudal** and **superior/inferior**.

Cranial = Closer to the _____

Caudal = Closer to the _____

Superior = Closer to the _____

Inferior = Closer to the _____

Some terms use a point of reference that is only meaningful on the appendicular skeleton, such as **proximal/distal**.

Proximal = Closer to the _____

Distal = Farther from the _____

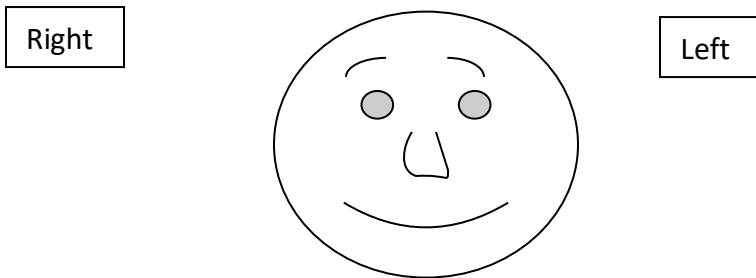
Check your work to ensure that you have not created identical definitions for any of these terms.

If you have done a good job, then your definitions will be appropriate when the word is used **on cats, humans, or both** the cat and the human.

NEXT, use your new anatomical language to decorate the faces and cats drawn below. Use the specific directions provided to create "Face A", "Cat B", "Face C", and "Cat D". Remember these terms are relative, so the position of each mark can vary and still be correct!

A – On Face:

- Draw a star **medial** to the eyes.
- Draw a circle **lateral** to the nose on right side.
- Draw a heart **superior** to the left eyebrow.



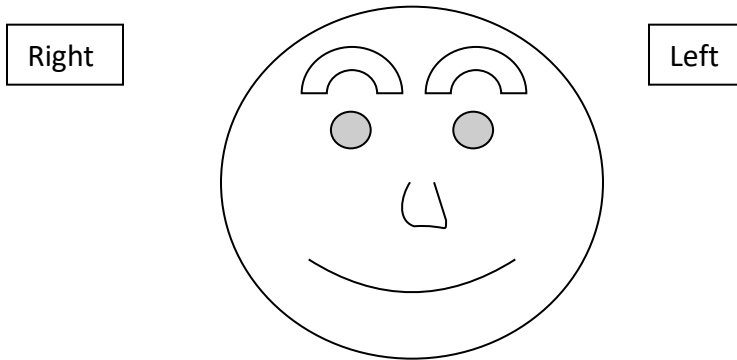
B – On Cat:



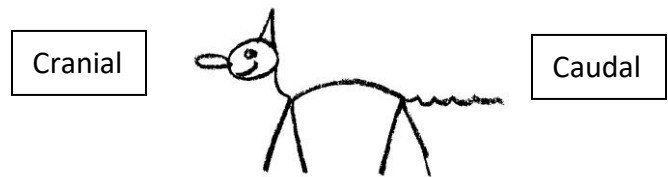
- Draw a square **caudal** to the mouth.

C – On Face:

- Draw a circle **inferior** to the left eye.
- Draw a square **lateral** to the circle.
- Draw a heart **medial** to the eyebrows.



D – On Cat:



- Draw a star **cranial** to the nose.

DESCRIBING PARTS OF THE BODY:

Use the human torso model and skeleton in lab to fill in the statements below using your new anatomical language. Be sure to consider the three-dimensional aspect of the organs when choosing your terms. Since some terms are interchangeable, there may be more than one correct answer. Fill in as many correct terms as you can. You should not use the terms proximal/distal or superficial/deep for this assignment.

The lungs are _____ to the heart.

The heart is _____ to the stomach.

The sternum is _____ to the heart.

The eyes are _____ to the ears.

The vertebral column is _____ to the lungs.

The head is _____ to the thorax.

MORE PRACTICE WITH TERMS:

Read the following instructions and draw the items in the positions described. Hold the paper as if it were in human anatomical position.

- In the middle of the space, draw a house with a vertical axis through its center. This is the midline of the entire picture.
- Draw a door inferior to the roof.
- Draw a chimney on the left side of the roof. Draw a sun superior to the chimney.
- Lateral to the house on the right, draw a doghouse.
- Draw a dog medial to the doghouse.
- Draw a bow on the caudal end of the dog.
- Make a cloud lateral to the sun.



DEMONSTRATING BODY MOVEMENTS:

⇒ **In the space below**, try writing your name normally, using your opposable thumb, and then try writing your name without using your opposable thumb by holding the pen between only the other four fingers. Do you see the difference?

COMBINING BODY MOVEMENTS:

We move our bodies in a variety of ways every day without giving any thought to what specific actions we are using. Most of the time, our body is moving through a combination of the simple movements we have defined and demonstrated in the exercise above. Perform the routine body movements below slowly and deliberately.

Break each of these movements down into the individual actions learned in the prior activity and record them on the lines provided. In some cases, a specific order of the movements performed may be necessary to achieve the desired end-result.

Demonstrate them several times to ensure that you have recorded all individual body movements needed to complete the task. Always begin in anatomical position! There are different combinations of movements that can result in the same action, so two people may have a different set of correct answers.

You may not need all of the lines given.

Example: Shake your head to tell someone “no”.

- Lateral rotation of head
- Medial rotation of head (repeat)

Nod your head to emphatically tell someone “yes”.

- _____
- _____
- _____

Sit down on a stool.

- _____
- _____
- _____
- _____

Stand on your toes and try to touch the ceiling.

- _____
- _____
- _____
- _____

Turn a doorknob to open a door.

- _____
- _____
- _____
- _____
- _____
- _____

Touch your toes with your fingers.

- _____
- _____
- _____
- _____
- _____
- _____

STRUCTURE REFLECTS FUNCTION:

When you are ready to begin, find an item in your house. Now record the following information correlating the structure of the item you have chosen to its function or functions. Pick something that has a function that you can perform with part of your body.

Object's name: _____

Object's function: _____

Structure of object (consider shape, size, composition, organization, special properties, etc.):

Describe the relationship between object's structure and its function:

Describe any weaknesses or disadvantages to the object's structure:

Describe any organs or tissues in the body with similar properties, structures or functions as the object:

Please complete these exercises prior to July 11. Please make a pdf format copy of your lab assignment and bring it to class. Thank you and good luck!