

BIOLOGY 11 – PRE-LAB EXERCISE

13-14

Name: _____

Lab Day & Time: _____

Musculoskeletal System / Nervous System & Senses

- Examine **Figure 13.4** in the *Lab Manual*.
 - What do “anterior” and “posterior” mean?
 - What are phalanges?
 - Locate the tibia, sternum, scapula, carpals, cranium, and coccyx. Which of these are part of the axial skeleton and which are part of the appendicular skeleton?
- What are “antagonistic pairs of muscles”? Give an example.
- Define and distinguish flexion and extension movements. Give an example of each.
- Define and distinguish adduction and abduction movements. Give an example of each.
- What **two** proteins generate the force of contraction in a muscle?

What molecule *directly* provides the energy for these proteins to generate this force?
- What is the largest part of the human brain?

What part of the brain contains the control centers for breathing and heart rate?
- What is a reflex?

What three types of neurons are used in a spinal reflex?
- What are the two types of photoreceptors in the eye?

What part of the eye contains these photoreceptors?

What causes the normal blind spot in the human visual field?

What is visual accommodation?
- What aspect of the “Sense of Touch” are you measuring with the two-point discrimination test described in section **14.5** of your *Lab Manual*?

Essential Musculoskeletal Terminology

Bring this list to lab. You will be learning some of the major groups of muscles and bones in the human body. Start familiarizing yourself with these structures and their functions before you come to lab. Keep this list to study for the quiz next week.

For each of the following **bones**, know

1. the location in the drawing (**Fig. 13.4**).
2. the location on the skeleton.
3. the location on your body.
4. if it is part of the axial or appendicular skeleton.

carpals

cranium

femur

humerus

mandible

patella

pectoral girdle

pelvic girdle

phalanges

radius & ulna

ribs

sacrum

sternum

tarsals

tibia & fibula

cervical vertebrae

lumbar vertebrae

thoracic vertebrae

For each of the following **muscles**, know

1. the location in the drawing (**Fig. 13.5**).
2. the location on the anatomical model.
3. the location on your body.
4. to which bones from the list to the left are these muscles attached.
5. what type of movement is created by its contraction. (See **Tables 13.1–2**)

biceps brachii

deltoid

external oblique

extensor digitorum

flexor digitorum

gastrocnemius

gluteus maximus

hamstrings

latissimus dorsi

masseter

pectoralis major

quadriceps femoris

rectus abdominis

trapezius

triceps brachii