**Anatomy Worksheet 5**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Articulations (Joints)**

**Exercise 1. Classification of Articulations**

**1.** What is meant by **functional classification** of a joint? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe 3 categories of functional classifications.

1)

2)

3)

**2.** What is meant by **structural classification** of a joint? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe 3 categories of structural classifications.

1)

2)

3)

**3**. Match the actions in **Column A** with the descriptions in **Column B**. Each number only used once.

 **Column A Column B**

1. Circumduction
2. Adduction
3. Flexion
4. Pronation
5. Elevation
6. Protraction
7. Rotation
8. Plantar flexion
9. Dorsiflexion
10. Inversion
11. Hyperextension
12. Opposition

\_\_\_ **A.** Bending foot in the direction of the dorsum

\_\_\_ **B.** Moving a part superiorly

\_\_\_ **C.** Movement of thumb toward the fifth digit

\_\_\_ **D.** Anterior movement in the transverse plane

\_\_\_ **E.** Movement of the sole medially

\_\_\_ **F.** Movement toward the midline

\_\_\_ **G.** Bending foot in the plantar direction

\_\_\_ **H.** Turning the palm posteriorly

\_\_\_ **I.** Movement of a bone around its own axis

\_\_\_ **J.** Distal end of bone moves in a circle

\_\_\_ **K.** Extension beyond the anatomical position

\_\_\_ **L.** Decreasing angle between articulating bones

**Exercise 2. Structures giving support to Synovial Joints**

**1.** Give a definition for the following and describe its specific roll in a synovial joint:

1. synovial fluid
2. synovial membrane
3. fibrous joint capsule
4. bursa (bursae)
5. meniscus (menisci)
6. articular cartilage
7. ligament
8. tendon of a muscle crossing the joint

**2.** Define the **6** categories of **Synovial joints** and give specific examples in the body for each.

**1)** Gliding

**2)** Hinge

**3)** Pivot

**4)** Condyloid /Ellipsoid

**5)** Saddle

**6)** Ball and Socket

**Exercise 3.** Select the best answer for each multiple choice question and fill–in below.

Multiple Choice Questions:

**1.** A joint united by dense fibrous tissue that permits a slight degree of movement is a:

**a)** suture **b)** periodontal ligaments **c)** symphysis **d)** synchondrosis **e)** syndesmosis

**2.** If a joint had a synovial cavity, articular cartilage, synovial membrane, and ligaments what type of joint is it likely to be?

**a)** suture **b)** synchondrosis **c)** syndesmosis **d)** hinge **e)** symphysis

**3.** What type of joint provides triaxial movement?

**a)** hinge **b)** ball-and-socket **c)** saddle **d)** condyloid **e)** pivot

**4.** Which ligament provides strength on the medial side of the knee joint?

**a)** oblique popliteal **b)** posterior cruciate **c)** fibular collateral **d)** tibial collateral **e)** anterior cruciate

**5.** On the basis of structure, which of these joint is fibrous?

**a)** suture **b)** synchondrosis **c)** pivot **d)** symphysis **e)** ellipsoidal

**Fill-Ins:**

**6.** The thin layer of hyaline cartilage on articulating surfaces of bones is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cartilage.

**7.** The shock absorber ‘pads’ of the knee joint are made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**8.** Fluid-filled ‘bags’ that cushion highly moveable points of a synovial joint are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**9.** Make a fist with your hand, the action at the interphalangeal joints (I to V) would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**10.** A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connects bone to bone and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connects muscle to bone.

**Exercise 4.** The Knee Joint

**1.** Write the name of the specific structure indicated in the knee joint below.



Exercise 5. Special Movements

**1.**  For each of the following, give the definition for these terms with regard to special movements.

**1) Arm**

Pronation:

Supination:

**2) Hand**

Opposition:

Reposition:

**3) Foot**

Dorsiflexion:

Plantarflexion:

Inversion:

Eversion:

**2.**  For the drawings below, answer the numbered questions below regarding the details of articulation at the specific **numbers** indicated on theses bones.



**1)** Name the structure, the joint and movement permitted.

**2)** Name the articulating surfaces, the joint and movement permitted.

**3)** What is the structure called? What attaches to it?

**4)** Name the structure, the joint and movement permitted.

**5)** What bone articulates with this structure? What type of joint is created?

**Exercise 4. Articulations**

**Table 1.** For each of the following joints list the functional type of joint, i.e., synarthrosis; amphiarthrosis; or diarthrosis. Then give the specific name (e.g., synchondrosis). Also include the important structural features (e.g., specific fibers, cartilage) and the potential movements allowed at that joint. *See example*.

|  |  |  |
| --- | --- | --- |
| **Joint** | **Functional Classification;****Specific Name** | **Structural Features;****Movement Allowed** |
| knee  | *Diarthrosis;**Hinge* | *Synovial Fluid; Monoaxial**Flexion/Extension, hyperextension* |
| epiphyseal plate  |  |  |
| pubic symphysis |  |  |
| parietooccipital  |  |  |
| sternoclavicular |  |  |
| proximal radioulnar  |  |  |
| tooth in alveolus |  |  |
| radioulnar (length) |  |  |
| metacarpophalangeal |  |  |
| intervertebral (at body) |  |  |
| trapeziometacarpal |  |  |
| glenohumeral  |  |  |