

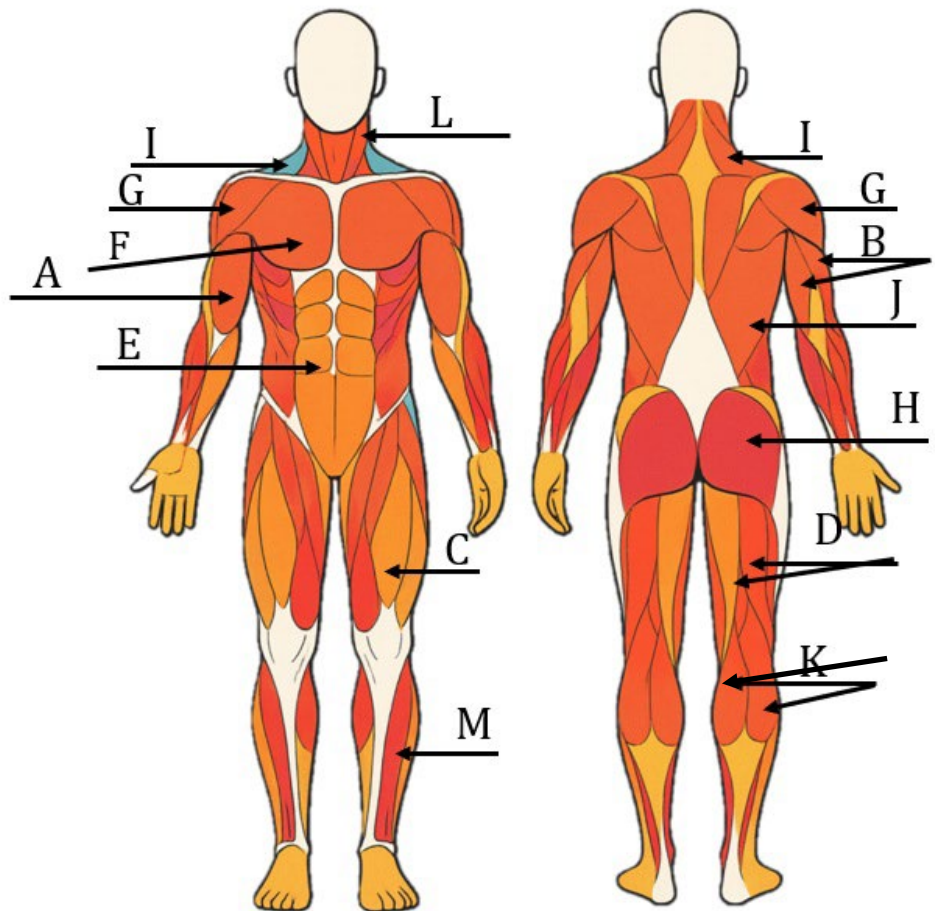
## Anatomy Class 3: Muscular and Nervous Systems

### Home Activities

These activities are designed to be done at home. There is no grade given for these and they do not have to be turned in. The answer key has been emailed to your grown up. The activity sheets are in the online class.

**Worksheet:** Label the muscles.

- A. Biceps
- B. Triceps
- C. Quadriceps
- D. Hamstrings
- E. Abdominals
- F. Pectorals
- G. Deltoids (2 labels)
- H. Gluteals
- I. Trapezius (2 labels)
- J. Latissimus dorsi
- K. Gastrocnemius
- L. Sternocleidomastoid (SCM)
- M. Tibialis



**Movement:**

Do the following movements and try to identify which muscles you are using and which bones those muscles are acting on. Squat, jumping jacks, bend forward, twist to the right or left, pick up something from the floor. Try and feel the muscles as they work.

**Here is the muscle list:**

- |                                       |   |
|---------------------------------------|---|
| Abdominal muscles (Rectus Abdominis)  | Pectoral muscles                          |
| Calf muscles (Gastrocnemius & Soleus) | Quadriceps                                |
| Deltoids                              | Side muscles (External/Internal Obliques) |
| Foot Muscles                          | Side muscles (Latissimus Dorsi)           |
| Gluteal muscles                       | Spinal muscles (Erector Spinae)           |
| Hamstrings                            | Thigh muscles                             |
| Hip muscles                           | Trapezius                                 |

**Squat**

Muscles	Bones
Quadriceps	Femur, Tibia, Patella
Hamstrings	Femur, Tibia
Gluteal muscles	Femur, Pelvis
Spinal muscles (Erector Spinae)	Spine, Pelvis
Abdominal muscles	Pelvis, Ribs
Calf muscles (Gastrocnemius & Soleus)	Tibia, Fibula, Foot bones
Foot muscles	Metatarsals, Phalanges

**Jumping Jack**

Muscles	Bones
Deltoids	Humerus, Scapula, Clavicle
Side muscles (Latissimus Dorsi)	Humerus, Pelvis, Spine
Trapezius	Scapula, Clavicle, Spine
Pectoral muscles	Humerus, Sternum, Clavicle
Gluteal muscles	Femur, Pelvis
Hip muscles	Femur, Pelvis, Spine
Quadriceps	Femur, Tibia, Patella
Hamstrings	Femur, Tibia
Calves (Gastrocnemius & Soleus)	Tibia, Fibula, Calcaneus (heel bone)
Foot Muscles	Metatarsals, Phalanges

**Bending forward to pick up something from the floor**

Muscles	Bones
Spinal muscles (Erector Spinae)	Spine (vertebrae), Pelvis
Abdominal muscles (Rectus Abdominis)	Pelvis, Ribs, Sternum
Side muscles (External/Internal Obliques)	Ribs, Pelvis
Hip muscles (Hip Flexors)	Femur, Pelvis, Lumbar Vertebrae
Hamstrings	Femur, Tibia, Pelvis
Gluteal muscles	Femur, Pelvis
Quadriceps	Femur, Tibia, Patella
Calf muscles (Gastrocnemius & Soleus)	Tibia, Fibula, Calcaneus
Foot Muscles	Metatarsals, Phalanges

**Twisting to left or right**

Muscles	Bones
Side muscles (External and Internal Obliques)	Ribs, Pelvis (Ilium)
Abdominal muscles (Rectus Abdominis)	Ribs, Pelvis
Spinal muscles (Erector Spinae)	Vertebrae (Spine), Pelvis
Foot Muscles	Metatarsals, Phalanges

## Pre-Assessment Quiz: Muscular and Nervous System

1. Which type of muscle is **voluntary** and attached to bones?

- A. Smooth muscle
- B. Cardiac muscle
- C. Skeletal muscle**
- D. Involuntary muscle

2. What type of muscle moves food through the digestive tract?

- A. Skeletal muscle
- B. Smooth muscle**
- C. Cardiac muscle
- D. Postural muscle

3. Which muscle is found **only in the heart**?

- A. Smooth
- B. Cardiac**
- C. Skeletal
- D. Abdominal

4. What happens when skeletal muscles **contract**?

- A. They push bones away from each other
- B. They pull on bones to produce movement**
- C. They relax completely
- D. They break down energy stores

5. Which pair of muscles work together to bend and straighten the arm?

- A. Quadriceps and hamstrings
- B. Deltoids and trapezius
- C. Biceps and triceps**
- D. Abdominals and obliques

6. What is the **main energy source** muscles use to move?

- A. Oxygen alone
- B. ATP (from glucose and fat)**
- C. Protein
- D. Water

7. Which muscle group helps you **stand up straight** and maintain posture?

- A. Spinal (erector spinae)**
- B. Biceps
- C. Hamstrings
- D. Pectorals

8. Which muscle helps you **breathe** by contracting downward during inhalation?

- A. Obliques

B. Triceps

**C. Diaphragm**

D. Pectoralis major

**9. The Central Nervous System (CNS) includes which two main structures?**

A. Brain and heart

**B. Brain and spinal cord**

C. Nerves and muscles

D. Spinal cord and blood vessels

**10. The Peripheral Nervous System (PNS) is responsible for:**

A. Making decisions

B. Producing reflexes

**C. Carrying messages between the CNS and the body**

D. Controlling emotions