Muscle Contraction Worksheet

C. Match these terms with the correct statement or definition:

Aerobic respiration
Anaerobic respiration
ATP
Creatine phosphate
Oxygen debt
Muscle fatigue

_____ 1. Molecule used to provide energy for muscle contraction.

_____ 2. Molecule used to store energy; can be quickly used to produce ATPs.

_____ 3. Type of respiration that requires oxygen.

_____ 4. Type of respiration that produces lactic acid.

_____ 5. Type of respiration that produces the most ATPs for each glucose molecule used.

_____ 6. Type of respiration used during short periods of intense exercise.

_____ 7. Amount of oxygen needed to convert lactic acid to glucose.

_____ 8. Results when ATP is used during muscle contraction faster than it can be produced in muscle cells, and lactic acid builds up faster than it can be removed.

Physiological contracture is an inability of muscles to contract or relax. It is extreme muscle fatigue caused by lack of ATPs.

D. Match these terms with the correct statement or definition:

Isometric
Isotonic
Muscle tone

_____ 1. Contraction in which the length of muscle does not change, but the amount of tension increases.

_____ 2. Responsible for movements of the arms or fingers.

_____ 3. Constant tension produced for long periods of time; responsible for maintaining posture.

E. Match these terms with the correct statement or definition:

Fast-twitch muscle fibers
Slow-twitch muscle fibers

_____ 1. Most resistant to fatigue.

_____ 2. Has a richer blood supply and contains myoglobin, which temporarily stores oxygen.

_____ 3. Predominant muscle fiber in the upper limbs.

_____ 4. Intense exercise resulting in anaerobic respiration has the greatest effect on this type of muscle fiber.

Smooth Muscle and Cardiac Muscle

"*Smooth muscle and cardiac muscle form the walls of hollow organs.*"

Match these terms with the correct statement or definition:

Both smooth muscle and cardiac muscle
Cardiac muscle
Smooth muscle

_____ 1. Unlike skeletal muscle, do not have sarcomeres and therefore are not striated.

_____ 2. Unlike skeletal muscle, under involuntary control.

_____ 3. Capable of autorhythmic contractions.

_____ 4. Has intercalated disks, which facilitate stimulus conduction between cells.

General Principles of Muscle Anatomy

"*Muscle contraction causes body movements by pulling one bone toward another across a movable joint.*"

Match these terms with the correct statement or definition:

Antagonist
Head
Insertion
Prime mover
Synergists
Tendon

_____ 1. Attaches a muscle to a bone.

_____ 2. End of the muscle attached to the bone undergoing the greatest movement.

_____ 3. Muscles that work together to accomplish a movement.

_____ 4. Muscle that plays the major role in accomplishing a particular movement.