



ACROSS

- 3 _____s are cylindrical organelles, found within muscle cells, which are bundles of actomyosin filaments that run from one end of the cell to the other, attached to the cell surface membrane at each end.
- 4 A _____ is a mononucleate cell that is responsible for bone formation.
- 8 The a star-shaped _____ is the most abundant cell found in bone, derived from osteoblasts after they become trapped within the matrix they secrete.
- 11 _____ muscle is a type of involuntary striated muscle found within the heart.
- 13 The _____ reticulum is a special type of smooth endoplasmic reticulum found in smooth and striated muscle.

- 14 A transverse or T- _____ is a deep invagination of the plasma membrane found in skeletal and cardiac muscle cells which allows depolarization of the membrane to quickly penetrate to the interior of the cell.
- 15 A _____ is a type of bone cell that removes bone tissue by removing the bone's mineralized matrix.
- 16 _____ canals are a series of tubes around narrow channels formed by lamellae in compact bone.
- 20 _____ is nitrogenous organic acid which naturally occurs in vertebrates and helps to supply energy to muscle and nerve cells.
- 21 A _____ is a cell originating from a mesenchymal stem cell which forms chondrocytes or cartilage cells.
- 22 Also known as

- trabecular, or spongy bone, _____ bone fills the inner cavity of long bones. It has low density and strength, but very high surface area.
- 23 The inorganic mineral _____ makes up seventy percent of bone.
- 30 Bone _____ is the process by which osteoclasts break down bone and release the minerals, resulting in a transfer of calcium from bone fluid to the blood.
- 31 _____s are the only cells found in cartilage.
- 36 A _____ muscle doesn't need to receive impulses from a nerve to make it contract.
- 37 _____ tissue forms the rigid part of the bone organs that make up the skeletal system.
- 38 _____ is the monomeric subunit of microfilaments, one of the three major components of the

- cytoskeleton, and of thin filaments which are part of the contractile apparatus in muscle cells.
 - 39 _____ ossification is the type of bone formation responsible for much of the bone growth in vertebrate skeletons, especially in long bones.
 - 40 The muscle _____'s functions are to send proprioceptive information about the muscle to the central nervous system and to respond to muscle stretching.
- DOWN**
- 1 The _____ is the main or mid section shaft of a long bone.
 - 2 A muscle _____ occurs when a muscle fiber generates tension through the action of actin and myosin cross-bridge cycling.
 - 5 A _____ is a sheath of connective tissue which groups

- individual muscle fibers into bundles or fascicles.
- 6 _____ ossification is the type of bone formation responsible for the development of flat bones, especially those found in the skull and clavicles.
- 7 Also known as compact bone, _____ bone is dense and forms the surface of bones.
- 9 A _____ is the basic unit of a muscle's cross-striated myofibril.
- 10 Bone _____ is the soft tissue found in the hollow interior of bones.
- 12 A _____ disc is an undulating double membrane separating adjacent cells in cardiac muscle fibers.
- 17 _____ is a type of dense connective tissue composed of collagen fibers and/or elastin fibers which can supply smooth surfaces for the movement of

- articulating bones.
- 18 _____ muscle is a type of striated muscle, usually attached to the skeleton.
- 19 _____ is a phosphorylated creatine molecule that is an important energy store in skeletal muscle.
- 24 As part of the regulation of muscle contraction, in resting muscle fibres, the protein _____ is displaced from its normal binding groove by troponin.
- 25 The _____ is the cell membrane of a muscle cell.
- 26 _____s are rigid organs that form part of the endoskeleton of vertebrates, functioning to move, support, and protect the various organs of the body, produce red and white blood cells and store minerals.
- 27 The _____ plate, or growth plate, is the cartilage plate in the long bones of children and adolescents.
- 28 A muscle _____ is a single cell of a muscle.
- 29 A motor _____ is a single alpha-motor neuron and all of the corresponding muscle fibers it innervates.
- 32 _____s are a large family of motor proteins found in eukaryotic tissues which are responsible for actin-based motility.
- 33 _____ muscle is a type of non-striated muscle, found within the bladder, abdominal cavity, the uterus, male and female reproductive tracts, the gastrointestinal tract and elsewhere.
- 34 A _____ or sinew is a tough band of fibrous connective tissue that connects muscle to bone and is built to withstand tension.
- 35 _____ is contractile tissue of the body and is derived from the mesodermal layer of embryonic germ cells.