Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Skeletal and Muscular Systems Study Guide**

The skeletal system is made up of bones, joints & connective tissue.

The skeletal System has 206 bones

**Functions of the Skeletal System**

* Bones provides structure and a strong framework to make it possible for movement.
* Protests internal organs
* Produces blood cells in the marrow (a soft tissue in the center of bones)
* Functions as a storage center for minerals like calcium and phosphorous.

**Parts of the Skeletal System:**

**Connective Tissues**

* Cartilage is a strong flexible gel-like tissue that allows bones to move smoothly across each other.
* Tendons are tough bands of tissue that connect muscles to bones.
* Ligaments are cord-like tissue that holds bones together, stabilizes joints yet still allows movement.
* Marrow produces blood cells.

**Joints**

A joint is the point where two bones meet.

**Types of joints, their function and examples**

* Hinge allows movement back and forth.

ex. elbows & knees

* Glidng bones that slide over one another and allows for a great deal of flexibility in many directions. ex. wrist & ankles.
* Pivot bones that have limited rotation ex. head & neck
* Ball and socket -complete rotation

ex. shoulders & hips

**Problems of the Skeletal System**

* Fracture -a break in the bone.
* Dislocation-bone is pushed out of its joint.
* Sprain-stretching or twisting of ligaments in a joint.
* Overuse injuries- happens over time ½ of sport injuries in teens.
* Scoliosis- curvature of the spine
* Osteoporosis- brittle or porous bone
* Arthritis- inflammation in the joints.

**The Muscular system has 3 functions**

1. Makes it possible to move.
2. Pumps blood throughout the body.
3. Moves food through your digestive system

**Types of Muscles**

1. Skeletal Muscles are muscles in your body that gives you the power to move, these are attached to your bones. You have over 600 in the body. These muscles are voluntary muscles. They work with your control.

* You have over 600 skeletal muscles in your body

1. Smooth Muscles are in your internal organs and blood vessels. They are involuntary. They work without your awareness.
2. Cardiac Muscles make up your heart. They work even when you are sleeping. They are found in the walls of the heart. These muscles are involuntary, they work without your awareness.

**How Muscles Work**- muscles are triggered by messages or impulses that are sent to muscle fiber-narrow strands of tissue within the muscle.

Contraction is the shortening of muscle fiber.

Extension is the lengthening of muscle fiber.

**Problems of the Muscular system**

1. Sore muscles -temporary condition
2. Muscle Cramps muscle contracts tightly and doesn’t relax.
3. Muscle Strain small tears to a muscle or tendon. Stop exercising if you feel pain.
4. Muscle Sprain injury to the tissue that connects bones to a joint.
5. Muscular Dystrophy inherited and causes muscle tissue to gradually waste away. Eventually can no longer walk.

**Care for the Muscular System**

* Regular exercise
* Warm-up and cool-down when exercising
* Use equipment properly, lift properly.

