

Skeletal System

- 206 bones
- The human skeleton is the internal framework of the body. It is composed of 270 bones at birth – this total decreases to 206 bones by adulthood after some bones have fused together. The bone mass in the skeleton reaches maximum density around age 30.





5 Functions of the Skeletal System

- 1. Movement: Skeletal system provides points of attachment for muscles. Your legs and arms move when the muscles pull on the bones.
- 2. Support: The backbone is the main support center for the upper body. It holds your head up and protects your spinal cord.

Muscle attached to bones!!





5 Functions of the Skeletal System

- 3. **Protection:** The bones of your skull protect your brain. Your ribs protect your lungs and heart from injury.
- 4. Makes Blood: Red and white blood cells are formed by tissue called marrow, which is in the center of the bone.



5 Functions of the Skeletal System

 5. Storage: Bones store minerals, such as calcium and phosphorus, for use by the body



Calcium helps build dense bones











Of all the joints in the body, the BALL AND SOCKET JOINT allows the greatest range of movement

- In this type of joint, one end of the bone is shaped like a ball, and it fits into a hollow socket at the end of another joint.
- Held together by ligaments and tendons

Ball and Socket

Joints



Two main Ball and Socket Joints: Shoulder and hip joints





- HINGE JOINTS allow extensive flexion and extension (Bending and straightening) with only a small amount of rotation.
- The joint is made by the joining of two bone ends which have smooth surfaces. They are shaped to move against each other with minimum friction.
- Strong ligaments stop the bones from sliding off from one side to the other.

Hinge Joints



Examples of Hinge Joints: Elbow and Knee Joints



Pivot Joint

- PIVOT JOINTS allow only rotation.
- The joint works by the end of one bone having a "peg" which fits into a "ring" formed by the other bone.
- There is pivot joint at the top of the spinal column, between the axis and atlas bones of the neck. This allows us to turn, raise and lower our heads – this is crucial in controlling balance and maintaining awareness.





Gliding Joints

- GLIDING JOINTS allow flexion and extension through a slight gliding motion between the ends of small bones such as hands and feet.
- These small bones can move over one another to increase the flexibility of the hands and feet.
- Strong ligaments link them together and stop them moving to far.



