

Body in Action *Checklist*

Movement (* = Credit outcomes)

1. The functions of the **skeleton** are **support, protection** and **movement** (along with muscles)
2. The skeleton protects the **heart, lungs, brain** and **spinal cord**.
3. The skeleton provides a **framework** for support and **muscle attachment**.
4. Bone is a living material and has **bone cells, a blood supply** and **nerves**.
5. Bone is made of two components: hard **minerals** (calcium phosphate) and flexible,organic **fibres**. The combined properties make bone **hard** and **strong**.
6. **Experiments** done to show these materials in bone are **burning** the bone to leave mineral ash and **soaking** the bone **in acid** to leave flexible fibres.
- 7*. Bone contains (and is built by) living **bone cells**. These cells also repair broken bones
8. **Joints** are found where bones meet.
9. Movable joints (synovial joints) can be **hinge** (with one plane of movement) or **ball and socket** (with all round movement).
10. Hinge joints are at the elbow and knee; ball and socket joints are at the shoulder and hip.
- 11*. A joint contains **cartilage, ligaments, synovial membrane, synovial fluid** .
- 12*. Cartilage acts as a **shock absorber**; ligaments **hold the bones together**; synovial membrane produces synovial fluid; synovial fluid acts as a **lubricant**.
13. Bones are moved by **muscles** and muscles are attached to bones by **tendons**.
- 14*. State that tendons are **inelastic** (do not stretch) to supply the pull of the muscle to the bone.
15. An arm has 3 bones - **humerus** (upper arm), **radius** and **ulna** (lower arm). It also has a **biceps** muscle and a **triceps** muscle.
- 16*. Muscles work in opposing pairs (antagonistic pairs) since muscles can only pull to move joints. They cannot push.
17. When the biceps muscle **contracts** the arm **bends** and when the triceps muscle contracts the arm **straightens**.