

A The effects of sport and exercise performance on the skeletal system.

Criteria	Yes	Nearly	No
A1 Structure of skeletal system. Understand how the bones of the skeleton are used in sporting techniques & actions.			
Major bones to include cranium, clavicle, ribs, sternum, scapula, humerus, radius, ulna, carpals, metacarpals, phalanges, pelvis, vertebral column (cervical, thoracic, lumbar, sacrum, coccyx), femur, patella, tibia, fibula, tarsals, metatarsals.			
Type of bone - long, short, flat, sesamoid, irregular.			
Areas of the skeleton to include axial skeleton, appendicular skeleton, spine.			
Process of bone growth - osteoblasts, osteoclasts, epiphyseal plate.			
A2 Function of skeletal system. Understand how the functions of the skeleton & bone types are used in sporting actions & exercise.			
Functions of the skeleton when performing sporting techniques & actions - supporting framework, protection, attachment for skeletal muscle, source of blood cell production, store of minerals, leverage, weight bearing & reduce friction across a joint.			
Main functions of different bone types when performing sporting techniques & actions - long bones, short bones, flat bones & sesamoid bones.			
A3 Joints. Understand how joints of the upper and lower skeleton are used in sporting techniques and actions.			
Joints of the upper skeleton (shoulder, elbow, wrist, cervical and thoracic vertebrae).			
Joints of the lower skeleton (hip, knee, ankle, lumbar, sacrum, coccygeal vertebrae).			
Classification of joints— fibrous, cartilaginous, synovial.			
Types of synovial joints (ball and socket, condyloid, gliding, saddle, hinge, pivot).			
The bones forming the following joints (shoulder, elbow, wrist, hip, knee, ankle & their use in sporting techniques & actions).			
Structure & function of components of synovial joints & their use in sporting techniques & actions.			
Range of movement at synovial joints due to shape of articulating bones & use in sporting actions.			
A4 Responses of the skeletal system to a single sport or exercise session			
Simulated increase of mineral uptake in bones due to weight-bearing exercise.			
A5 Adaptations of the skeletal system to exercise. The impact of long-term effects of exercise on sports performance.			
Skeletal adaptations— increased bone strength, increased ligament strength.			
A6 Additional factors affecting the skeletal system. Understand the impact of the skeletal system on exercise & sports performance & the impact of exercise & sports performance on the skeletal system.			
Skeletal disease— arthritis, osteoporosis, and the effect of exercise in offsetting these conditions.			
Age— young children and resistance training issues stunting bone growth.			

Skeletal System Revision Questions

1. Identify a specific bone for each type listed below.

- a. Long (1 mark)
- b. Short (1 mark)
- c. Irregular (1 mark)
- d. Sesamoid (1 mark)
- e. Flat (1 mark)

2. Outline the role of osteoclasts and osteoblasts with regards to bone growth.

(2 marks)

3. State the difference between the axial skeleton and appendicular skeleton

(2 marks)

4. Explain how two functions of the skeleton assist a sports performer.

(4 marks)

Function 1

Function 2