

12/9/23.

1.2

The functions of the skeleton



See page 7

The skeletal system has six functions, which can be recalled using the mnemonic 'Sometimes Practising Moving Swiftly Brings Success'.

R

E

Write down the key points about each function, remembering to mention how each function is important for physical activity:

Support - needed for muscles and vital organs. Without this the body would just be soft tissue that would be unable to move.

Protection - needed for vital organs. During physical activity it's crucial for both performance and long-term health. It reduces the chance of injury.

Movement - occurs when muscles contract to pull on bones and joints. Without the skeleton we would be unable to move at all.

Shape + Structure - For maintaining the basic shape of body and providing something for muscles to attach to. Without it we wouldn't be able to move.

Blood Cell Production - Takes place in the bone marrow. Red blood cells are especially important in aerobic activities bc they carry O_2 to working muscles. White blood cells fight infections. Platelets help blood clotting in injury.

Storage of minerals - Essential for major body functions. Very important for the general health of an athlete which clearly affects sporting performance.

Revision technique: mnemonics

A mnemonic is a system designed to help you remember something. It can be particularly helpful to create mnemonics to help you remember lists of things, such as the list of the six functions of the skeletal system.

Do you like this technique? Does it work for you? 😞 😐 😊

3 minute timer

KEYWORDS



Types of Bones

Long bones – Bones that are longer than they are wide, like the femur. They play a key part in leverage and gross movements

Short bones – Bones that are box-like in shape, like tarsals. They are designed to be weight bearing and/or enable fine, controlled movements

Flat bones – Thin, flat, plate bones that act as a shell, such as the cranium. They provide protection for vital organs and have large surface area which allows for this and for the muscle to attach.

Irregular bones – Unusually shaped bones for a unique purpose, like the vertebrae. They also provide protection and a large surface area for muscles to attach.

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The functions of the skeleton



See page 7

A State the functions of the skeleton that are important in gymnastics performance.

Movement. Shape + Structure. Support. Protection

V Select two other practical sports and give specific examples as to how each function of the skeleton is important in the sport you have selected.

1. **Skat bone.* Boxing - protection is needed as a punch to the head without the cranium would be severe damage. Shape + Structure - so the muscles can attach to something without this he wouldn't be able to have movement as without it the skeleton wouldn't be able to move.

2. Swimming - in the 1500 you will need lots of oxygen in your red blood cells to go to your working muscles, the Hemoglobin binds to the oxygen to create oxyhemoglobin and that's how the oxygen is carried so blood cell production is key for long distance swimming.

E Look at this photograph and explain how the different functions of the skeleton are important in rugby. **Skat bones.*



Protection is a vital function of the skeleton as it's needed for protecting vital organs such as going in for a tackle, you could bash your head so your cranium protects your brain. Movement, you will need this for running as without muscles you wouldn't be able to move. Such as your quads, without them they wouldn't be able to run.