KS3 SCIENCE · BIOLOGY

Skeleton and muscles: exam questions

Name _____
Total: 20 marks

1 State the four jobs of the skeleton. **[4 marks]**

2 Name the part of the skeleton that protects the brain, and the bones that protect the heart and lungs. **[2 marks]**

3 State where in the body new blood cells are made. **[1 mark]**

4 Name one hinge joint and one ball and socket joint in the body. **[2 marks]**

5 State what cartilage does in a joint, and what ligaments do. **[2 marks]**

6 Describe what happens to a muscle when it contracts, and what this does to the bone it is joined to. **[2 marks]**

7 Explain why muscles work in pairs. **[2 marks]**

8 A student's arm is bent at the elbow. Describe what the biceps and the triceps do to straighten it. **[2 marks]**

9 A footballer tears a tendon in her leg. Explain why she cannot move the leg normally. **[2 marks]**

10 A student finds that she can push much harder on a force meter with her leg than with her arm. Suggest one reason why. **[1 mark]**

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Skeleton and muscles: mark scheme

Total: 20 marks

1 [4 marks]
- Support **(1)**
- Protection (accept: protects organs) **(1)**
- Movement **(1)**
- Making blood cells **(1)**

2 [2 marks]
- Brain: the skull **(1)**
- Heart and lungs: the ribs (accept: rib cage) **(1)**

3 [1 mark]
- In bone marrow (accept: inside some bones) **(1)**

4 [2 marks]
- Hinge joint: elbow or knee (accept: a finger joint) **(1)**
- Ball and socket joint: shoulder or hip **(1)**

5 [2 marks]
- Cartilage reduces friction between the bones (accept: stops the bones rubbing together) **(1)**
- Ligaments join bone to bone (accept: hold the bones of the joint together) **(1)**

6 [2 marks]
- The muscle gets shorter (and fatter) **(1)**
- It pulls on the bone (accept: the tendon pulls the bone) **(1)**

7 [2 marks]
- A muscle can only pull (accept: a muscle cannot push) **(1)**
- So a second muscle is needed to pull the bone back the other way **(1)**

8 [2 marks]
- The triceps contracts **(1)**
- The biceps relaxes **(1)**

9 [2 marks]
- Tendons join muscles to bones **(1)**
- So when the muscle contracts, it cannot pull on the bone **(1)**

10 [1 mark]
- The muscles in the leg are bigger than the muscles in the arm (accept: there is more muscle; the leg muscles are used and trained more) **(1)**