Standard Grade Biology

The Body in Action **Movement**

1. Name 3 functions of our skeleton.

(3)

2. Name 2 types of joint and give 2 examples of each.

(4)

3. Stated the functions of the following parts of a synovial joint.
   a) Cartilage
   b) Synovial fluie
   c) Tendon
   d) Ligament

(4)

4. Describe the structure of bone and explain why it needs a blood supply.

(3)

5. An experiment to compare the elasticity of tendons and ligaments was carried out by a group of pupils.
They carefully selected a tendon and then a ligament of equal thickness and cut them to the same length. They then clamped each tightly at one end and added weights one at a time from the other end, measuring the length after the addition of each weight.
Below is a table of their results.

Number of weights added	Length of tendon (cm)	Length of ligament (cm)
0	5.0	5.0
1	5.1	5.1
2	5.1	5.2
3	5.1	5.2
4	5.2	5.3
5	5.2	5.4
6	5.2	5.4

(a) Plot the above results as line graphs on the paper provided.

(2)

(b) Calculate the percentage increase in length of the tendon and the ligament at the end of the experiment.

(1)

6. A study was carried out to find out the numbers of injuries occurring in different sports. The sports examined were football, running, rugby and tennis. The injuries investigated were to knee, shoulder and ankle.
The number of knee injuries was greatest in football. 35 footballers suffered from this complaint. 23 knee injuries occurred in running, 12 in tennis and 5 in rugby.
Of the ankle injuries, 23 resulted from football, 20 from running, 8 from tennis and 4 from rugby.
There were 10 shoulder injuries in tennis, 7 in rugby, 3 in football and none in running.

(a) Draw a table to summarise the information contained in the above text.

(2)

(b) One of the conclusionsthat might be made from this study is that people are most likely to be injured while playing football. Give a reason why this cannot be correctly concluded from the information presented here.

(1)

Total - 20