

Write your name here

Surname

Other names

Edexcel
Principal Learning

Centre Number

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Candidate Number

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Sport and Active Leisure

Level 3

Unit 3: Science and Technology in Sport and Active Leisure

Friday 1 June 2012 – Afternoon

Time: 1 hour 30 minutes

Paper Reference

SL303/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*

Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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PEARSON

Answer ALL questions. Write your answers in the space provided.

1 Figure 1 shows an athlete performing a squat.



Figure 1

(a) (i) Identify the muscles labelled X, Y and Z.

(3)

X

Y

Z

(ii) Complete the table below for the upward movement of the squat.

(4)

Joint	Movement	Muscle	Role of muscle group	Type of contraction
Knee				

(b) (i) Describe how an athlete can use weight training to improve their strength.

(2)

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(ii) Describe how an athlete can use weight training to improve their muscular endurance.

(2)

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(iii) Explain the long-term adaptations that athletes may experience if they use strength training exercises such as a squat.

(4)

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(Total for Question 1 = 15 marks)



- 2 During the breathing process the air pressure in the lungs decreases during inhalation and increases during exhalation.

Describe how the mechanics of breathing lead to changes in air pressure in the lungs.

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(Total for Question 2 = 4 marks)



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3 Figure 2 shows average testosterone levels in men of different ages.

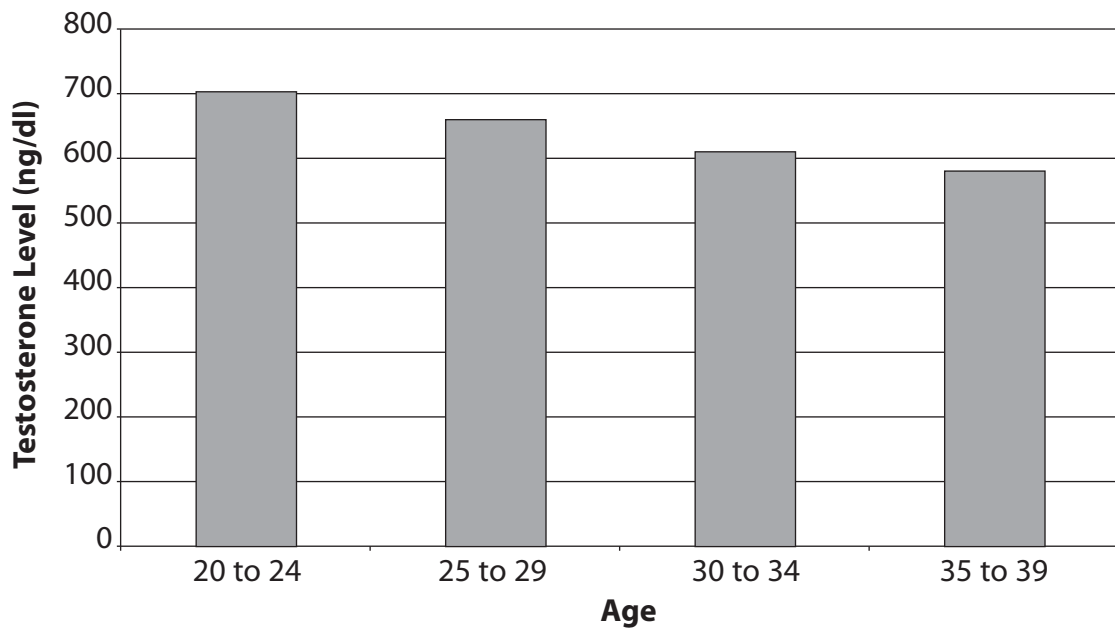


Figure 2

(a) State the relationship between age and testosterone levels in men.

(1)

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(b) Describe what testosterone is.

(2)

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4 Figure 3 shows a footballer running with the ball during a match.



(Source: adapted from © Reuters)

CoG = centre of gravity **Figure 3**

(a) Describe how the player's body position is affecting his centre of gravity.

(3)

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(b) Describe how the position of the player's centre of gravity is helping him to change direction.

(3)

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(Total for Question 4 = 6 marks)



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