

Surname	Centre Number	Candidate Number
First name(s)		0



GCSE

C555U10-1



WEDNESDAY, 17 MAY 2023 – AFTERNOON

PHYSICAL EDUCATION (Short Course)
Component 1: Introduction to Physical Education

1 hour

ADDITIONAL MATERIALS

You may use a calculator in this examination.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

Diagrams, charts and graphs can be used to support answers when they are appropriate.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.a (i)	1	
1.a (ii)	2	
1.a (iii)	1	
1.a (iv)	1	
1.b	6	
1.c	3	
1.d	4	
2.a (i)	3	
2.a (ii)	3	
2.b (i)	3	
2.b (ii)	3	
2.c	7	
3.a	8	
3.b	4	
4.a	3	
4.b (i)	1	
4.b (ii)	3	
4.c	4	
Total	60	



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Answer **all** questions.

1. **Figure 1** – An athlete in training.



- (a) (i) Identify the training method shown in **Figure 1**. [1]

Tick (✓) **one** box only.

Fartlek

Weight

Plyometric

Flexibility

- (ii) Justify your reasons for choosing the training method in **1(a)(i)**. [2]

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(c) Muscles can be placed in three main types.

Draw a line to match the type of muscle to the correct description.

[3]

Muscle type	Description
Skeletal muscle	Only found in the heart
Smooth muscle	Involuntary muscle which works automatically
Cardiac muscle	Voluntary muscle which is under our control

(d) Explain the main differences between fast and slow-twitch muscle fibres.

[4]

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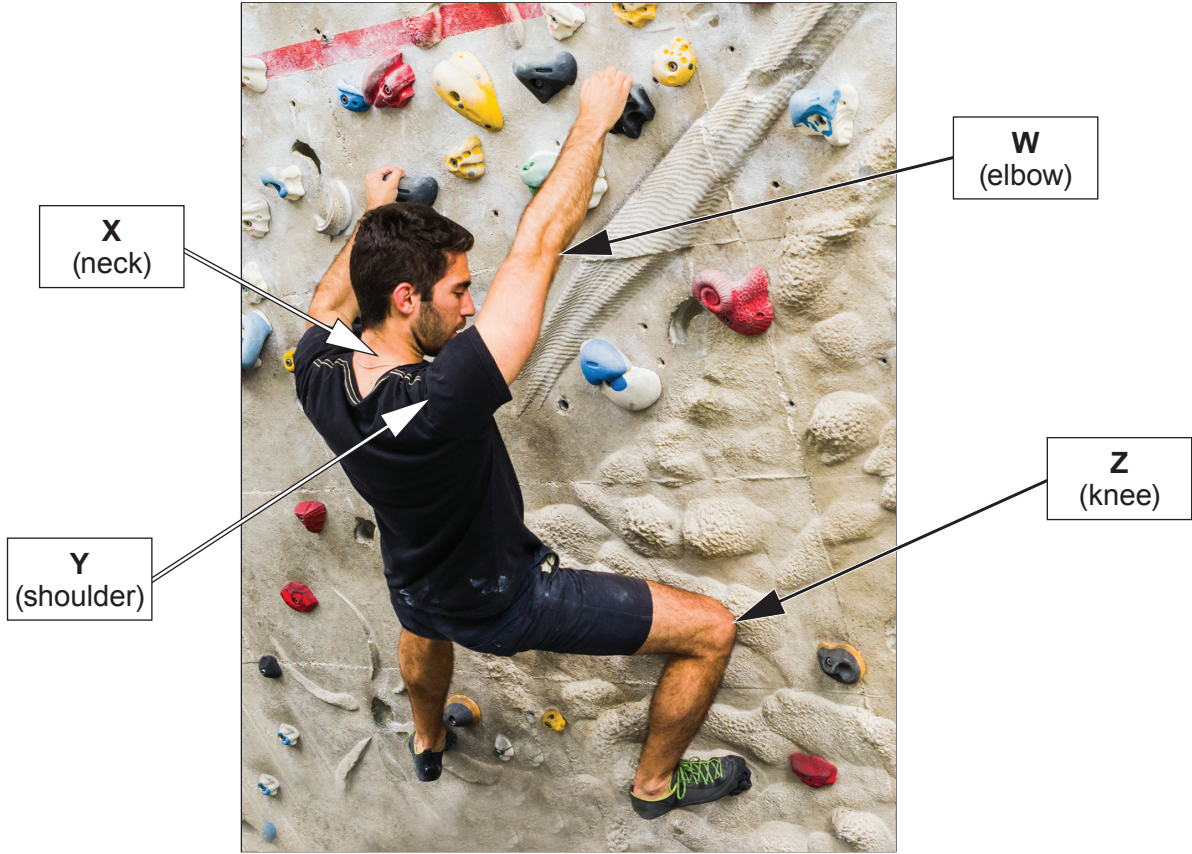
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2. In order to perform effectively, climbers require strength, flexibility and muscular endurance.

Figure 2 – A climber.



(a) (i) Using **Figure 2** identify the **three** types of joint. [3]

X (neck)

Y (shoulder)

Z (knee)

(ii) Using **Figure 2** identify the type of movement taking place at **W**, **Y** and **Z**. [3]

W (elbow)

Y (shoulder)

Z (knee)



(b) (i) Define the components of fitness in the table below.

[3]

Component of fitness	Definition
Strength	<p>.....</p> <p>.....</p>
Flexibility	<p>.....</p> <p>.....</p>
Muscular endurance	<p>.....</p> <p>.....</p>

(ii) Describe, using **Figure 2**, why climbers would need to have high levels of strength, flexibility and muscular endurance.

[3]

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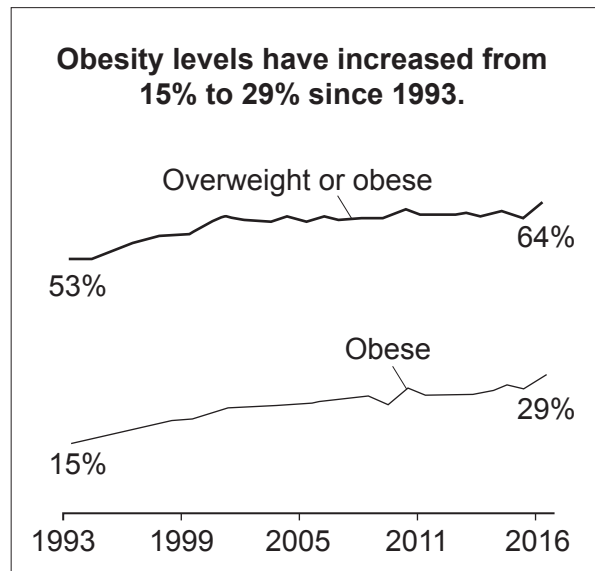
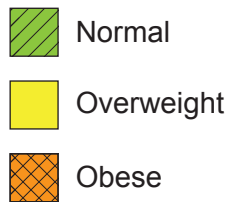
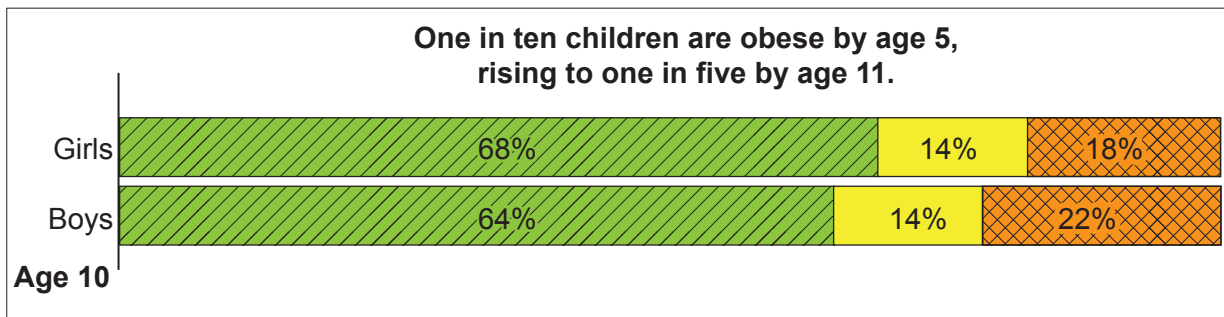
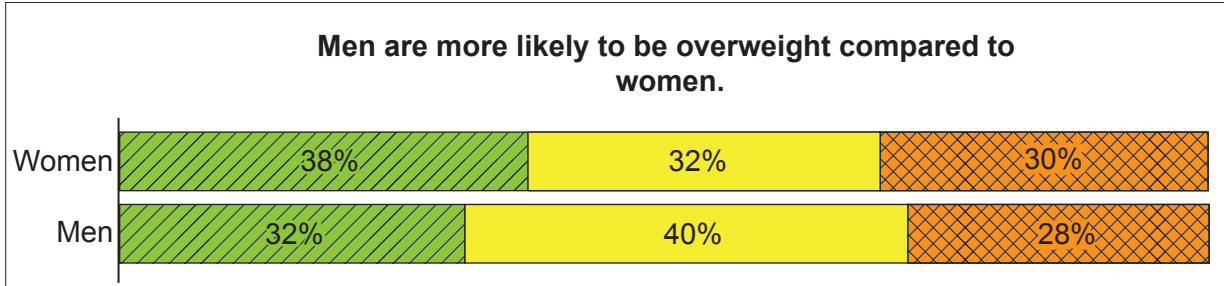
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3. Study the following data from a recent health report:

- In England more than 1 in 4 children aged 4–5 are overweight or obese.
- 1 in 3 children are overweight by the time they leave primary school.
- 1 in 4 boys and slightly fewer girls aged 15 are overweight or obese.
- 1 in 4 adults are obese.



(a) Discuss the possible causes of obesity, and suggest solutions to the problem. [8]

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4. **Figure 3** – A training session for a 16-year-old athlete.

- Warm up for 8 minutes.
- Run 150 metres in 28 seconds, walk back to start and recover for 1 minute 30 seconds.
- Repeat × 2.
- Run 200 metres in 32 seconds, walk back to start and recover for 2 minutes.
- Repeat × 2.
- Cool down for 6–8 minutes.

(a) Using your knowledge of the principles of training, explain how the training session shown in **Figure 3** could be changed in order to enhance performance.

[3]

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(b) (i) Identify the method of training described in **Figure 3**. [1]

Tick (✓) **one** box only.

Training Method

Flexibility

Interval

Continuous

Strength

(ii) Identify the main component of fitness that could be developed in the training session described in **Figure 3**. Justify your answer. [3]

Component of fitness:

Justification:

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(c) Explain how the cardio-respiratory and vascular systems adapt as a result of long-term participation in physical activity.

[4]

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