AQA

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

GCSE
PHYSICAL EDUCATION

Paper 1 The human body and movement in physical activity and sport

Wednesday 17 May 2023 Afternoon Time allowed: 1 hour 15 minutes

Materials

For this paper you must have:
- a ruler.

Instructions
- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 78.
- Questions should be answered in continuous prose. You will be assessed on your ability to:
  - use good English
  - organise information clearly
  - use specialist vocabulary where appropriate.

For Examiner's Use	
Question	Mark
1 to 6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
TOTAL	

Do not write outside the box

Answer **all** questions.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD 

WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

0 1 Which **one** of these structures attaches muscles to bones?

[1 mark]

A Cartilage ⬭

B Ligaments ⬭

C Membranes ⬭

D Tendons ⬭

0 2 Which **one** of these describes stroke volume?

[1 mark]

A The volume of blood in the veins ⬭

B The volume of blood pumped by the heart in one minute ⬭

C The volume of blood pumped by the heart in one contraction ⬭

D The volume of blood within the heart ⬭

Do not write outside the box

0 3 Which **one** of these muscles is found in the leg?

[1 mark]

A Deltoid ⬭

B Gastrocnemius ⬭

C Latissimus dorsi ⬭

D Rotator cuffs ⬭

0 4 Lisa is doing light aerobic training to maintain a level of general fitness.

In which **one** of these training seasons is she working in?

[1 mark]

A Competition ⬭

B Post-season ⬭

C Pre-season ⬭

0 5 Which **one** of these describes an isometric contraction?

[1 mark]

A The muscle expands in size ⬭

B The muscle increases in length ⬭

C The muscle remains the same length ⬭

D The muscle decreases in length ⬭

Do not write outside the box

0 6 Which **one** of these movements takes place in a frontal plane?

[1 mark]

A Bicep curl ⬭

B Discus throw ⬭

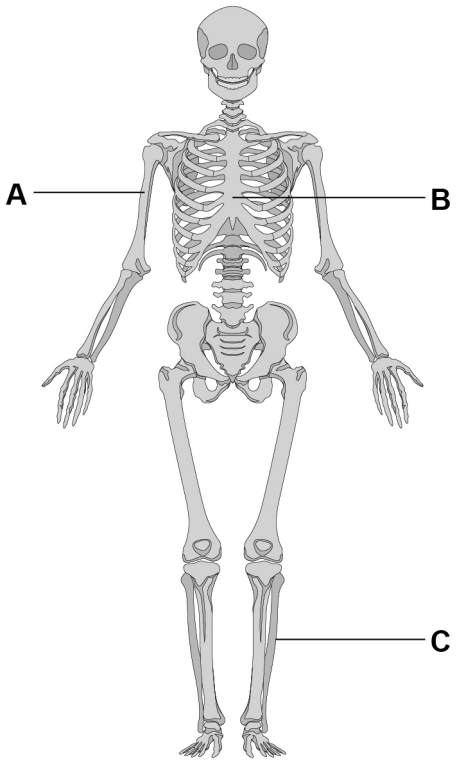
C Front somersault ⬭

D Star jump ⬭

6

0 7 **Figure 1** shows a human skeleton.

Figure 1



Identify the bones labelled **A**, **B** and **C** in **Figure 1**.

[3 marks]

A _____

B _____

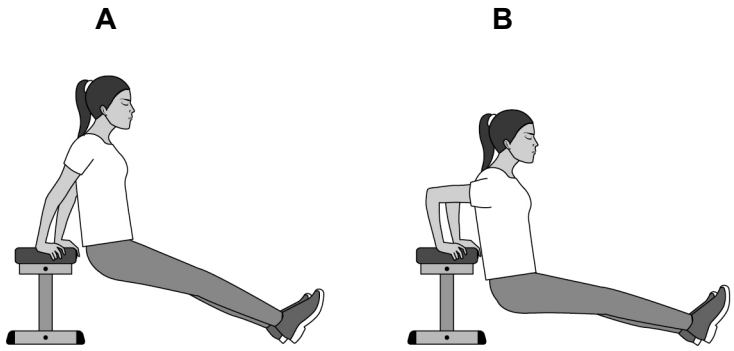
C _____

3

Do not write outside the box

0 8 **Figure 2** shows an athlete in two different positions (**A** and **B**) as the athlete performs a tricep dip.

Figure 2



Use **Figure 2** to help answer the following questions.

0 8 . 1 Identify the joint action taking place at the **elbow** as the arm moves from **A** to **B**.

[1 mark]

0 8 . 2 Identify the main antagonist at the **elbow** as the arm moves from **A** to **B**.

[1 mark]

0 8 . 3 Identify the type of isotonic muscle contraction that is taking place at the **elbow** as the arm moves from **A** to **B**.

[1 mark]

3

Turn over for the next question

Do not write outside the box

0 9 Dynamic strength is required to perform in a 1000m rowing race.

Define 'dynamic strength'.

Justify why dynamic strength is important in a 1000m rowing race.

[4 marks]

Definition _____

_____

Justification _____

_____

_____

_____

_____

_____

_____

4

1 0 Chris is an experienced 25-year-old 800m runner.

Table 1 shows Chris's heart rate in beats per minute (bpm) at **the start** and **during** an 800m race.

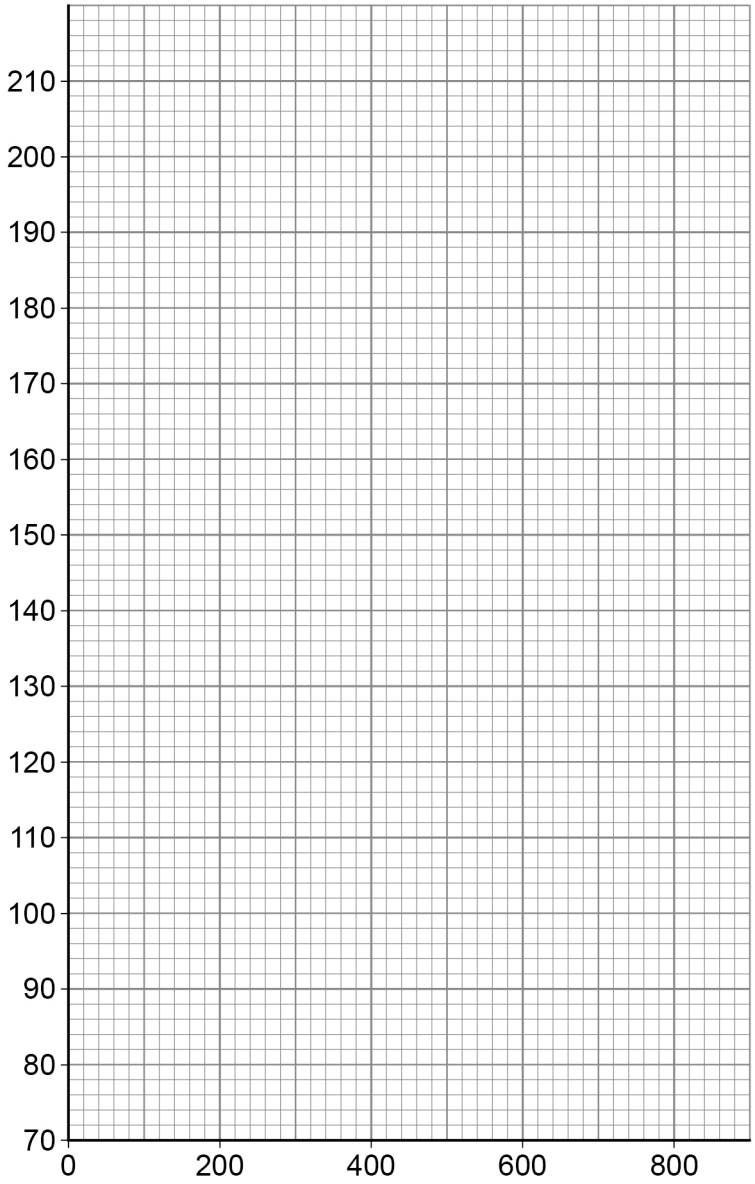
Table 1

Distance (m)	Heart rate (bpm)
0	80
200	130
400	140
600	160
800	200

Do not write outside the box

1 0 . 1 Draw a line graph on the graph paper below to show Chris's heart rate at **the start** and **during** an 800m race.

Label the axes.



[2 marks]

Question 10 continues on the next page

Do not write outside the box

1 0 . 2 Chris has a resting heart rate of 50 beats per minute (bpm).

Explain why Chris's heart rate is higher at the start of the race than his resting heart rate.

[2 marks]

1 0 . 3 Explain **three** factors that can affect Chris's speed of recovery.

[3 marks]

Factor 1

Factor 2

Factor 3

1 0 . 4 Chris's breathing rate will change during the race.

Define tidal volume.

Explain the changes that occur to Chris's tidal volume during the 800m race.

[3 marks]

Definition

Explanation

10

Do not write outside the box

1 1 Describe the pathway of blood from when it enters the heart on the right side to where it leaves the heart on the left side.

[5 marks]

5

1 2 EPOC is excess post-exercise oxygen consumption.

Explain how EPOC is caused.

Give a sporting example when EPOC is likely to occur.

[4 marks]

Cause

Example

4

Do not write outside the box

1 3 . 1 Define abduction.

Use an example of a sporting action in your answer.

[2 marks]

Definition _____

_____

Example _____

_____

1 3 . 2 Name the type of joint where abduction can take place.

[1 mark]

_____

_____

3

1 4 Delayed onset of muscle soreness (DOMS) can occur after vigorous exercise.

Evaluate the use of ice baths to prevent DOMS.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

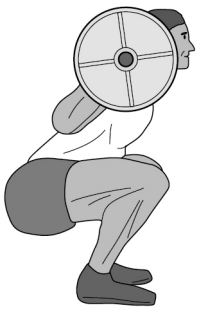
_____

4

Do not write outside the box

1 5 **Figure 3** shows a person performing a back squat.

Figure 3



1 5 . 1 Identify the class of lever system used at the **knee** whilst performing the back squat in **Figure 3**.

[1 mark]

Question 15 continues on the next page

Do not write outside the box

1 5 . 2 Draw a fully labelled diagram to show the class of lever identified in **Question 15.1**.

[2 marks]

1 5 . 3 Explain why the lever in **Figure 3** has a low mechanical advantage.

[2 marks]

5

Do not write outside the box

1 6 . 1 A weightlifter must calculate their workload intensity correctly.

State how a weightlifter would calculate their workload intensity.

[1 mark]

1 6 . 2 Describe how a weightlifter would calculate their workload intensity if they were trying to improve their muscular endurance.

[2 marks]

1 6 . 3 Discuss whether the One Rep Max Test is a relevant test for a gymnast.

[4 marks]

7

Do not write outside the box

1 7 Poppy is a 100 metre sprinter.

1 7 . 1 Speed is important to Poppy.

Name and describe a test that measures speed.

[4 marks]

Test _____

_____

Description _____

_____

_____

_____

1 7 . 2 Define reaction time.

Outline one reason why reaction time is important to Poppy.

[2 marks]

Definition _____

_____

Reason _____

_____

_____

_____

6

Do not write outside the box

1 8 Describe the process of high altitude training.

Use a sporting example in your answer.

[3 marks]

3

Turn over for the next question

Do not write outside the box

1 9 Evaluate the importance of agility **and** flexibility in a 200m freestyle swimming race.

[6 marks]

Extra space

6

Do not write outside the box

2 0 Using the principles of training, analyse how the long-term benefits of training are important to a games player.

[9 marks]

Do not write outside the box

Extra space

9

END OF QUESTIONS

Do not write outside the box

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

Do not write outside the box

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Copyright information

For confidentiality purposes, all acknowledgements of third-party copyright material are published in a separate booklet. This booklet is published after each live examination series and is available for free download from www.aqa.org.uk.

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team.

Copyright © 2023 AQA and its licensors. All rights reserved.