



GCSE



C550U10-1

WEDNESDAY, 17 MAY 2023 – AFTERNOON

PHYSICAL EDUCATION (FULL COURSE)

Component 1: Introduction to Physical Education

2 hours plus your additional time allowance

Surname _____

First name(s) _____

Centre Number _____

Candidate Number 0 _____

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.a	4	
1.b	2	
1.c	3	
1.d	6	
1.e	7	
1.f	7	
1.g	2	
2.a	13	
2.b	2	
2.c	2	
2.d	6	
3.a	3	
3.b	7	
3.c	6	
3.d	6	
4.a	12	
4.b	3	
4.c	4	
4.d	5	
5.a	7	
5.b	5	
5.c	6	
5.d	2	
Total	120	

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen or your usual method.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces provided on the front cover.

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.

(Turn over)

Answer ALL questions.

1. Sport England's 2019 survey states, 'More women, disabled people and those with long-term health conditions are getting active'.

(a) Explain TWO factors that have affected participation rates of these target groups.

[4 marks]

1. _____

2. _____

(Turn over)

1 (b) Identify TWO long-term health conditions associated with a sedentary lifestyle. [2 marks]

1. _____

2. _____

(c) Explain the relationship between health, fitness and well-being. [3 marks]

1 (d) Evaluate the effect of long-term exercise on the social and mental well-being of an individual.

[6 marks]

(Turn over)

[illegible]

(Turn over)

1 (e) (i)

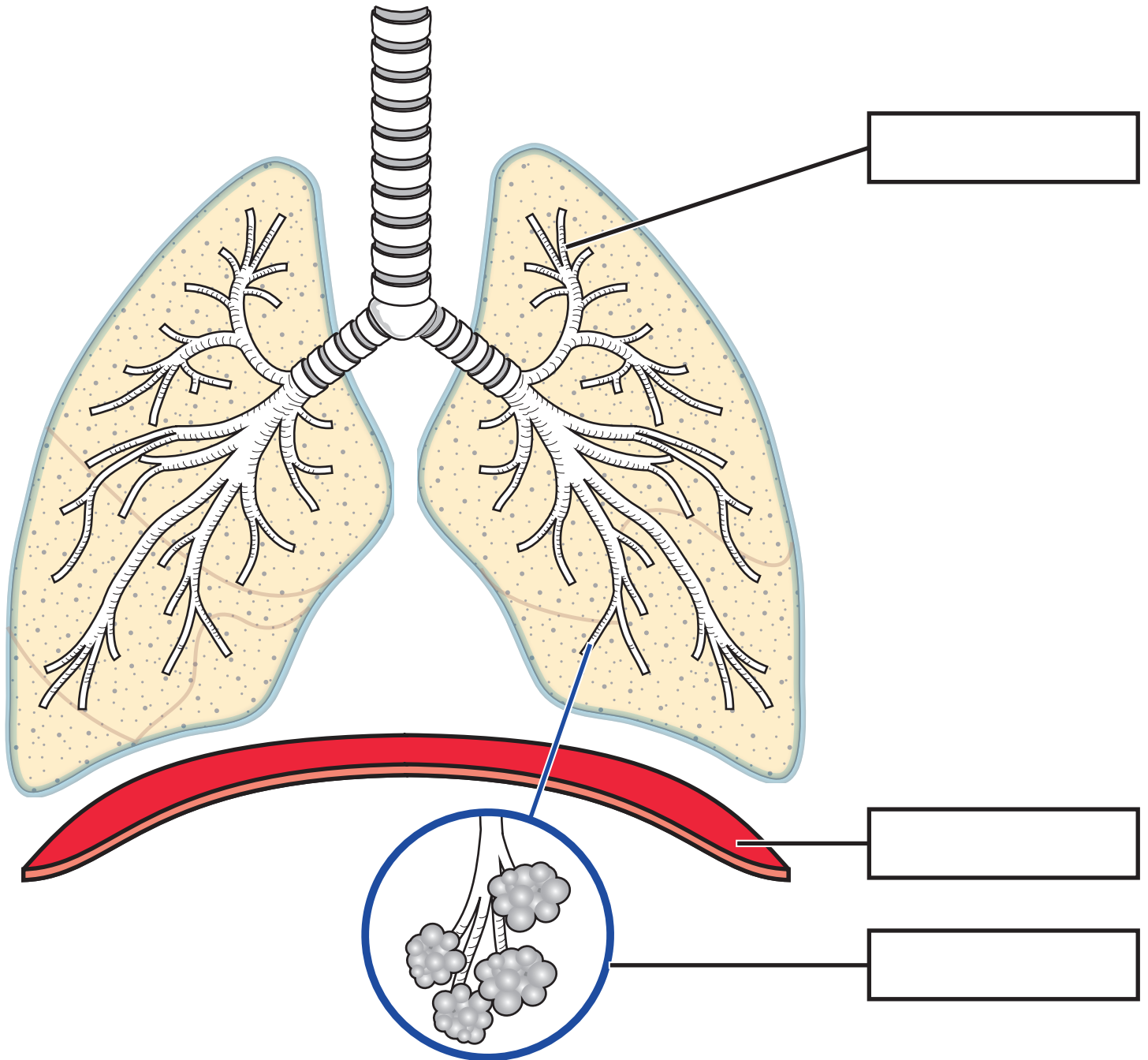
Identify the changes in values to the cardio-respiratory and vascular systems from rest to exercise. [4 marks]

Complete the information in the table below.

	REST	INCREASES OR DECREASES DURING EXERCISE
Stroke volume	0.7 L	_____
Blood pressure	120 mmHg systolic	_____
Breathing frequency	12 breaths per min	_____
Tidal volume	0.5 L	_____

(Turn over)

FIGURE 1 – a diagram of part of the respiratory system.



1 (e) (ii)

**Identify the components of the respiratory system.
[3 marks]**

**Place ONE letter into each box on the diagram
opposite.**

A. Diaphragm

B. Alveoli

C. Bronchioles

(Turn over)

1 (f) (i)

Explain why it is important for a sportsperson to work within the aerobic training zone. [4 marks]

[illegible]

(Turn over)

1 (f) (ii)

Explain why continuous training would be used to develop the aerobic energy system. [3 marks]

1 (g) Explain the function of carbohydrates and fats during aerobic exercise. [2 marks]

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2 (a) (i)

Identify the component of fitness each test measures in the table below. [3 marks]

FITNESS TEST	RESULT	COMPONENT OF FITNESS
Vertical jump test	60 cm (excellent)	
Ruler drop test	7.5 cm (excellent)	
30 m sprint test	4.9 sec (average)	

(ii) From the data in the table above, explain an appropriate SMART target for the 15-year-old sprinter. [6 marks]

SMART target: _____

(Turn over)

(iii) Assess the importance of a fitness test being both reliable and valid. [2 marks]

2 (a) (iv)

Apart from fitness testing, identify TWO other measurement tools that could be used to assess the physical fitness and health of the sprinter.

[2 marks]

1. _____

2. _____

(Turn over)

2 (b) Explain how a sprinter could apply the principle of overload to their training. [2 marks]

2 (c) Explain how schools may have influenced the participation of the sprinter. [2 marks]

2 (d) (i)

Explain the differences between an open and closed skill.

Use sporting examples to support your answer.

[4 marks]

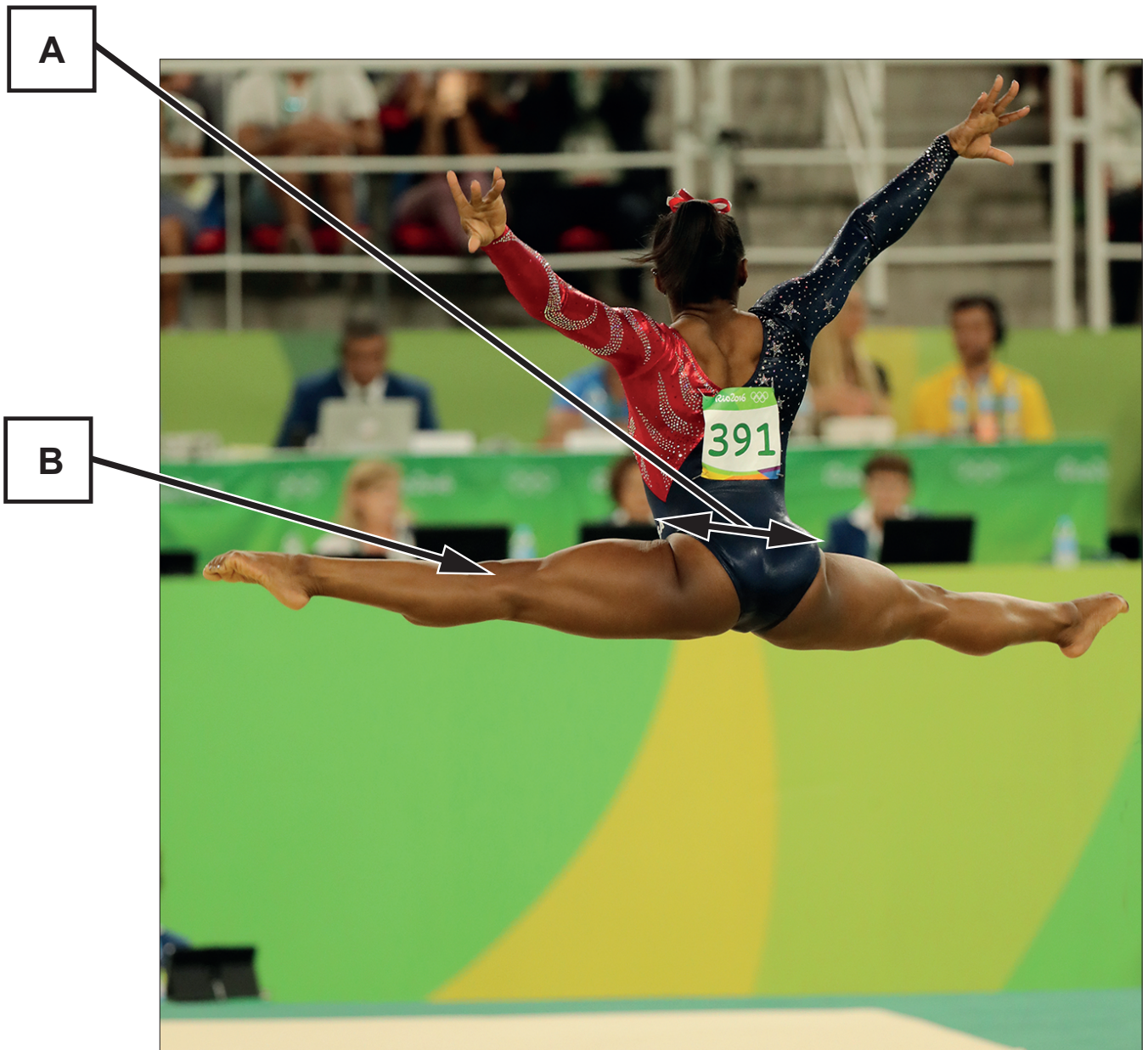
[illegible]

(Turn over)

2 (d) (ii)

Explain the most appropriate type of practice to develop a closed skill. [2 marks]

3. **FIGURE 2 – a gymnast performing a split leap.**



- 3 (a) Analyse, using FIGURE 2, the movement taking place at the hips (A) and knee (B) of the gymnast.**

[3 marks]

TYPE OF MOVEMENT AT A (HIP)	
TYPE OF MOVEMENT AT B (KNEE)	
PLANE OF MOVEMENT AT A (HIP)	

- (b) Flexibility is an essential physical fitness component of a gymnast.**

- (i) Define flexibility. [1 mark]**

(Turn over)

3 (b) (ii)

Justify why flexibility is needed by a gymnast.

[2 marks]

3 (b) (iii)

Explain how ONE method of training could be used to develop flexibility. [3 marks]

Method of training: _____

Explanation: _____

3 (b) (iv)

Identify ONE principle of training from the list below. [1 mark]

Tick (✓) ONE box only.

Speed

☐

Specificity

☐

Minerals

☐

Measurable

☐

(Turn over)

3 (c) (i)

Describe how each of the following components of fitness are needed by a gymnast. [2 marks]

Balance:

Co-ordination:

(Turn over)

3 (c) (ii)

Identify a recognised fitness test for each of the components of fitness below. [3 marks]

COMPONENT OF FITNESS	TEST
Balance	
Co-ordination	
Flexibility	

(Turn over)

3 (c) (iii)

Identify which term is defined as ‘a muscle that shortens under tension’. [1 mark]

Tick (✓) ONE box only.

Eccentric muscle contraction

☐

Concentric muscle contraction

☐

Isokinetic muscle contraction

☐

Isometric muscle contraction

☐

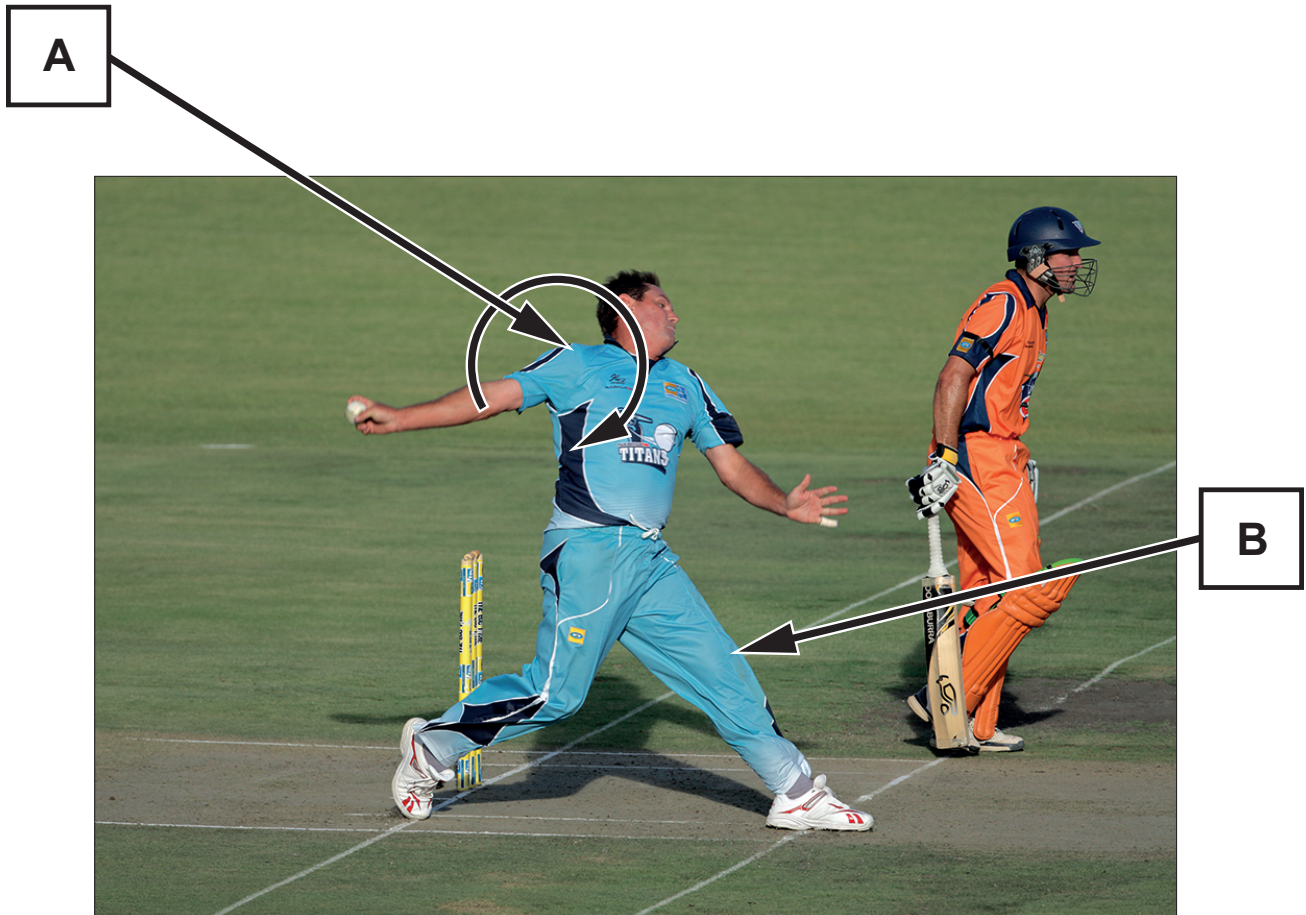
(Turn over)

3 (d) Analyse the characteristics of a skilled performer. [6 marks]

[illegible]

(Turn over)

4. **FIGURE 3 – a bowler in cricket.**



(a) (i) Analyse the correct movement and agonist muscle at A and B in FIGURE 3. [4 marks]

	MOVEMENT	AGONIST
A (SHOULDER)	_____	_____
B (KNEE)	_____	_____

(Turn over)

4 (a) (ii)

Explain TWO movements, other than those stated in 4(a)(i), that can occur at the shoulder joint.

[4 marks]

MOVEMENT

EXPLANATION

(Turn over)

4 (a) (ii)

MOVEMENT

EXPLANATION

(Turn over)

4 (a) (iii)

Explain, using sporting examples, the terms 'prime mover' and 'antagonist'. [4 marks]

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(Turn over)

4 (b) (i)

Identify ONE flat bone that provides protection in a game such as cricket. [1 mark]

(ii) Describe TWO ways that a player can assist their recovery after exercise. [2 marks]

4 (c) Assess how intrinsic and extrinsic feedback could influence the performance of a sportsperson such as a cricketer. [4 marks]

[illegible]

(Turn over)

4 (d) Evaluate how the use of mental preparation could benefit a sportsperson. [5 marks]

[illegible]

(Turn over)

5. FIGURE 4 – a long distance runner.



(a) (i) Using FIGURE 4, identify the type of synovial joint shown at A. [1 mark]

Tick (✓) ONE box only.

Ball and socket

☐

Pivot

☐

Hinge

☐

Gliding

☐

(Turn over)

5 (a) (ii)

Identify the plane of movement taking place at A.

[1 mark]

Tick (✓) ONE box only.

Frontal

☐

Sagittal

☐

Vertical

☐

Transverse

☐

(iii) Identify the THREE bones found in the arm.

[3 marks]

1.

2.

3.

(Turn over)

5 (a) (iv)

Assess the need for a long-distance runner to have a high proportion of slow-twitch muscle fibres to be successful. [2 marks]

(b) (i) Outline THREE physical short-term effects of aerobic exercise on the body. [3 marks]

- 1.**

- 2.**

- 3.**

(Turn over)

5 (b) (ii)

Explain the characteristics of anaerobic exercise.

[2 marks]

(c) Sponsorship and the media play a major part in financing sport. Discuss this relationship.

[6 marks]

(Turn over)

5 (d) Explain TWO POSSIBLE negative consequences of the use of technology to analyse sporting performance. [2 marks]

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END OF PAPER

(Turn over)

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

(Turn over)

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