



Sport

BTEC SPORT SIXTH FORM TRANSITION BOOKLET

SUMMER 2024

Task 1: Become the Sports Analyst!

Throughout your BTEC Sport course, you will be investigating a number of different topics in sport, including practical sports performance, fitness training and skill acquisition.

Watch the following documentary 'Cristiano Ronaldo – Tested to the Limit' and answer the questions below.

<https://www.youtube.com/watch?v=4achmhZLNoY&t=5s>

- 1) During the opening of part of the documentary, Cristiano Ronaldo's incredible speed, agility and power is shown. Define and name a suitable fitness test for each of these components of fitness. In addition, for a sport of your choice identify when each of these components of fitness are needed?

.....
.....
.....
.....
.....
.....

- 2) In the documentary, sports scientists analyse Cristiano Ronaldo's perceptual skill when dribbling past an opponent. Define what a perceptual skill is and provide an example of this in a sport of your choice.

.....
.....
.....
.....

- 3) Cristiano Ronaldo's perceptual ability is tested against an amateur footballer 'Ronald', when both have to attempt to score a goal when the lights are turned off as the cross is delivered. Why is Ronaldo significantly more successful at making contact with the ball and scoring in this situation?

.....
.....
.....
.....
.....
.....

- 4) Sports scientists analyse Cristiano Ronaldo's unique free kick and dribbling style. Explain the 5 characteristics of a skilful movement.

.....
.....
.....
.....
.....
.....
.....
.....

Task 2: Become the Sports Scientist!

SECTION A: The Skeletal System for Sports Performance.

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

Within the body there are different types of bone. One type is a sesamoid bone. The function of the sesamoid bone is to reduce friction across a joint.

1 State the function of the following **three** types of bone:3 marks

Long

.....

Short

.....

Flat

.....

Total for Question 1 =

Eve is a netballer and plays centre.



Figure 1

2 (a) Identify the movement occurring at Eve's ankle when she is jumping/taking off.

1 mark

.....

(b) The ankle is an example of a synovial joint.

State **two** functions of ligaments within Eve's ankle.

2 marks

1

.....

2

.....

The nervous system controls the force Tristan applies when kicking the ball.

(b) Describe the law associated with nervous control of muscle contraction.
3 marks

.....

.....

.....

.....

.....

As part of Tristan's pre-season training he has undertaken lactate threshold training.

(c) Explain how increasing Tristan's tolerance to lactate would be beneficial to his football performance.
5 marks

.....

.....

.....

.....

.....

.....

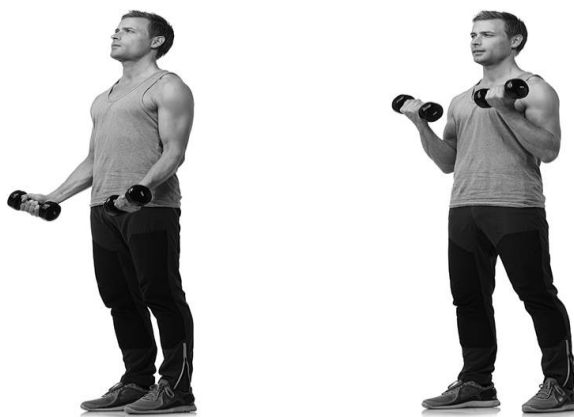
.....

.....

.....

.....

A fundamental part of Tristan's training is using weights to develop his upper body strength.



Downward phase

Upward phase

Figure 3

The next section of the race is cycling.

(b) Explain how neural factors regulate Evan's respiratory system during the cycling section of his race.

4 marks

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

The weakest part of Evan's triathlon is his running section. To improve this, Evan considers training at altitude to boost his performance for this section of the race.

(c) Analyse the **immediate** effects of altitude training on Evan's respiratory system.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Total for Question 5 =

SECTION D: The Cardiovascular System for Sports Performance.
Answer ALL questions. Write your answers in the spaces provided.

A capillary is a blood vessel that enables gaseous exchange to occur.

6 Describe how the capillary aids the process of gaseous exchange.

.....

.....

.....

.....

.....

.....

Question 6 = 3 marks

7 Describe the functions of the right atria.
2 marks

.....

.....

.....

.....

8 Explain the role of the Atrio-ventricular node (AVN) in the nervous control of the heart when exercising.
3 marks

.....

.....

.....

.....

.....

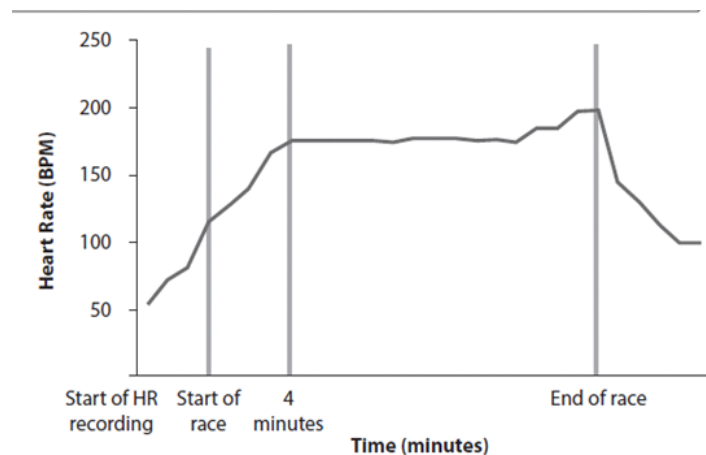
.....

Question 8 = 3 marks

Joe has been taking part in a 6 week endurance training programme to try to improve his 5000m time. He used a heart rate monitor to record his heart rate during his first 5000m race.

Figure 5

9 (a) Explain, using **Figure 5**, how Joe's heart rate increases from the start of the Heart Rate (HR) recording to 4 minutes into the race.
4 marks



.....

.....

.....

.....

.....

.....

.....

.....

.....

Figure 6 shows Joe's stroke volume at rest and during his race following completion of his six week training programme.

	SV at rest (ml)	SV during the race (ml)
Before training programme	70	120
After training programme	85	140

Figure 6

(b) Explain how an increased stroke volume would impact on Joe's performance.
4 marks

.....

.....

.....

.....

.....

.....

.....

.....