PE

A Level (Year 2) | AQA | 7582

Active Revision Worksheets

For A Level (Year 2) AQA PE

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POD 9200

Active Revision Worksheets For A Level (Year 2) AQA PE

Contents

Teacher's Introduction

This resource contains activity worksheets covering the whole of the content f course.

These worksheets provide a systematic structure for revision and ensure that students have covered everything after working through them. The resource can be used as:

- A comprehensive revision workbook in the run-up to the exam
- Homework sheets to consolidate learning
- Class exercises or independent practice

Each topic follows this structur

S n A (n)	This section is designed to recap students' knowled and activities based on what students have learnt in
Section B (write-on)	In this section, students apply their knowledge to sp practice for the sports-based questions that they wi
Section C (non-write-on)	This section enables students to discuss or evaluate
Exam-style Questions (non-write-on)	This section contains exam-style questions for stude

Each topic has a checklist, based on the specification, of everything students n Students should use this table to track their progress and confidence against e topic. The levels are as follows:

- **Bronze** – 'I am not completely confident. I have revised the content, but I to revise this more.'
- **Silver** – 'I am semi-confident. I understand the content, but need to impr of knowledge.'
- **Gold** – 'I am confident in my knowledge and application of the content an analyse the content if required.'

Not every student will need to work through every topic – where students are knowledge on a particular topic, they may wish to progress directly to Sections it and evaluating it. However, should students fail to score full marks in these they go back and do the knowledge revision activities in Section A.

Active Revision Work

For A Level (Year 2) AQA PE

Topic 1: Energy Syste

A: Energy Transfer in Physical Ac

Knowledge Checklist

Adenosine triphosphate (ATP) and energy transfer
Energy transfer during short-duration/high-intensity exercise (ATP-PC energy system and anaerobic energy system)
Energy transfer during long-duration/lower-intensity exercise (aerobic energy system)
The energy continuum and relationship between three systems
Energy transfer during different activities (aerobic and anaerobic)

Section A: Demonstrate Your Knowledge

1. Wh nosine triphosphate (ATP) important to the body?

.....

.....

2. Where is ATP stored in the body?

.....

3. Organise the following symbols and letters to produce an equation to sho
(Some will not be required.)

ATP	+	=	ADP	Creatine	→
P	–	PC	x	Energy	

4. (a) ATP must be constantly resynthesised, due to it breaking down quick
energy for the resynthesis of ATP?

.....

(b) Write an equation to show this process.

(c) Write an equation to show the resynthesis of ATP.

5. Name the three main energy systems used by the body.

(i) .....

(ii) .....

(iii) .....

6. For each energy system, complete the table to identify the reaction type (or food source used; the site of the reaction; the controlling enzyme; the A by-products.

	Energy Syste	
Type of Reaction (aerobic/anaerobic)		
Chemical / Food Source		
Site of Reaction		
Controlling Enzyme		
TH \ e.d		
By-products		

7. For the stages below, name the system being described and fill in any mis

1) Glucose is broken down by the enzymes _____ and _____ _____. The glucose becomes glucose-6-phosphate.

2) If oxygen is not present, ___ _____ ____ lactate dehydrogenase (LDH

3) If oxygen is present, the _____ ___ is converted to _____ _____ _____ which then enters the Krebs cycle.

Name of energy system:

8. Explain what is meant by EPOC.

.....

.....

.....

.....

Now, outline its two components:

Fast component: .....

.....

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Slow ... po... .....

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9. Describe the terms **OBLA** and **lactate threshold** with regard to lactate acc

OBLA .....

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Lactate threshold .....

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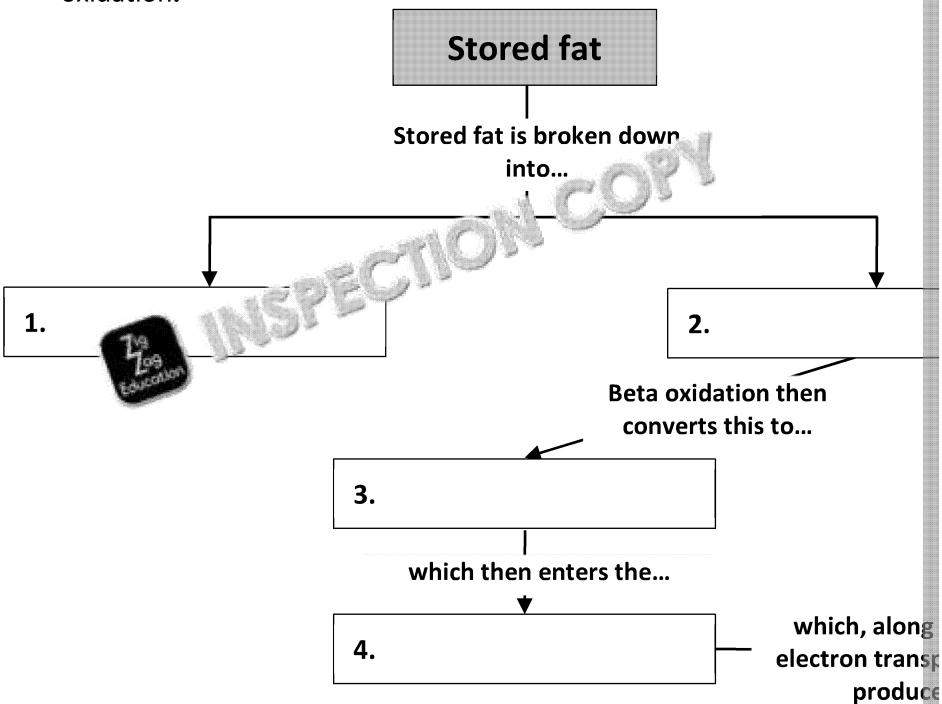
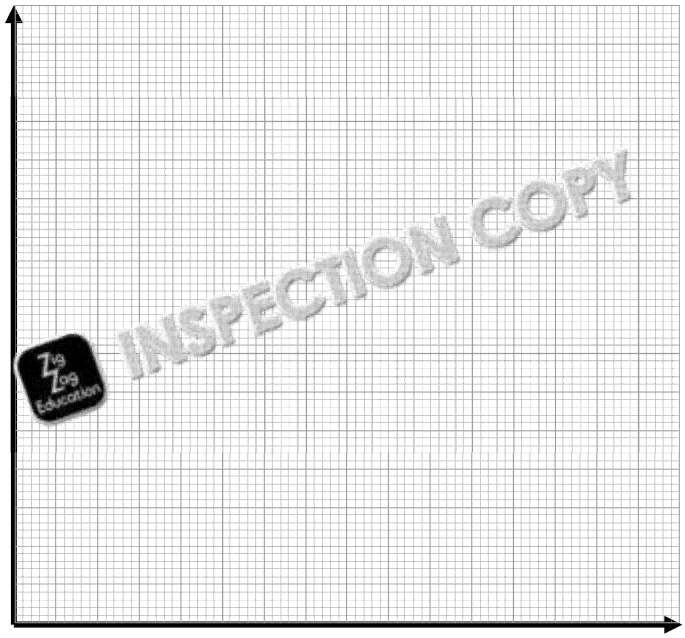
10. Fill in the flow chart below, demonstrating the journey fats take to be co... oxidation.



Section B: Apply Your Knowledge

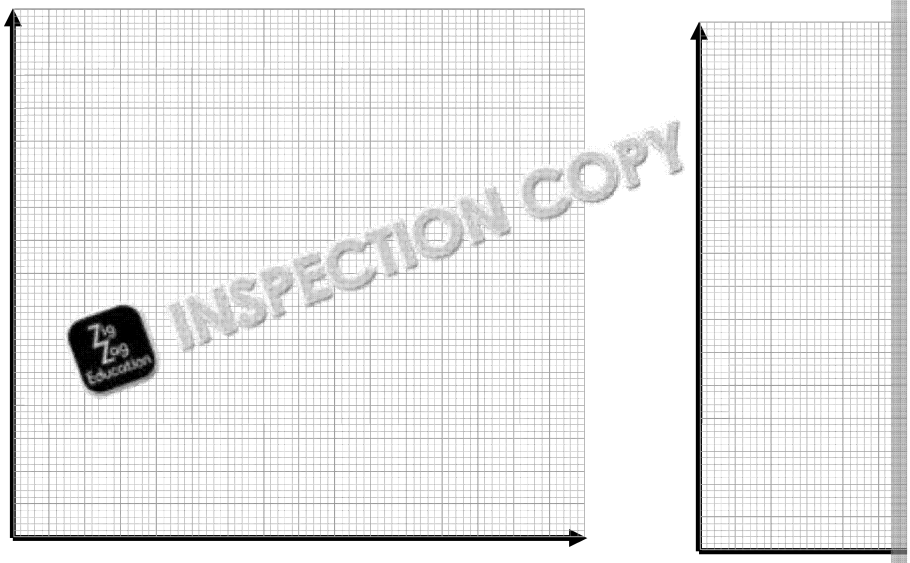
1. Draw a graph to show the energy continuum representing the relative ene system has on overall energy production during exercise at different inten include a key for your graph or label your lines.



2. Exercise can be categorised as maximal (athlete works at maximal intensit (athlete works below maximal intensity/effort).

   Draw and annotate two graphs to illustrate the difference in the oxygen c (oxygen deficit) and oxygen consumption during recovery (EPOC) for the t

5 K park run



3. Explain how a 100 m sprinter's training would ensure they are training the for their sport and explain how this energy system is beneficial for their p

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4. Using sporting examples, describe how differ... ...ities and durations differently.

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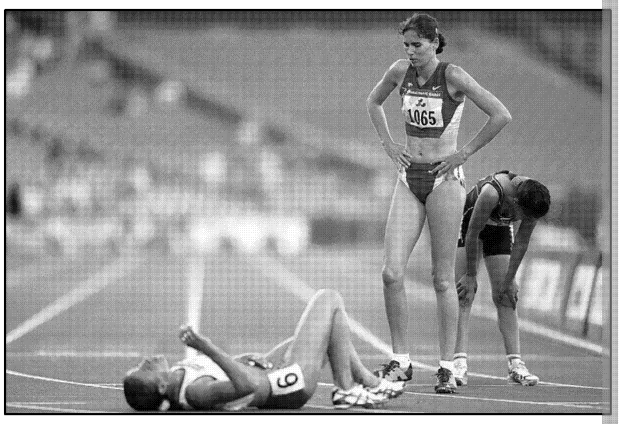

5. An up-and-coming 800 m runner has found she cannot keep up with her c of the race. Suggest why lactate may affect the athlete's sprint and power

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Section C: Analyse and Evaluate

1. The world record for the marathon is just over two hours. With reference the primary energy system used during this event and describe the stages

2. Explain how the characteristics of different muscle fibre types are suited t different energy systems.

Exam-style Question

A Level Paper 1: Factors Affecting Participation in Physical Activity and Sp

1. Which one of the following statements is most accurately shows breakdown

   a) ATP = P + Energy

   b) Energy = ADP + ATP + P

   c) ADP = ATP + P + Energy

   d) ATP = ADP + P + Energy

Topic 1: Energy Syste

B: Factors Affecting VO_2 Max and Specialist

Knowledge Checklist

Factors affecting VO_2 max and aerobic power
Measurements of energy expenditure: indirect calorimetry, lactate sampling, V max test and respiratory exchange ratio (RER)
Specialist training methods and their impact on energy systems: altitude trainin high intensity interval training (HIIT), plyometrics and speed agility quickness (S

Section A: Demonstrate Your Knowledge

1. What is altitude training?

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2. Describe acclimatisation and identify why it is important for an athlete to

.....

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3. Complete the flow diagram to explain the factors that influence VO_2 max.

Some athletes are born with better VO_2 max potential than others. This is due to

i) .....

ii).....

methods such as fartlek, int... and continuous can help improve VO_2 ... 20%.

However, negative life

.....

and .....

can have negative effe

As we .....

decrease due to boc becoming less reliab

Other factors that affect VO_2 max include...

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4. What is high intensity interval training (HIIT)?

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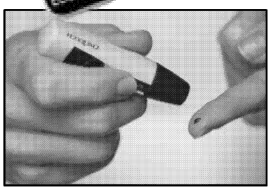
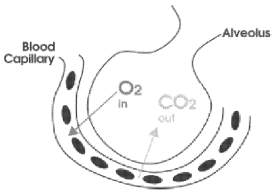
Section 8: Apply Your Knowledge

1. Give two ex... athletes that would train at altitude.

.....

.....

2. Complete the table below, describing the four methods of measuring ene
example of the type of athlete that would benefit from each method and

Method	Description
Indirect calorimetry 	
Blood l... t... ...mp...g 	
VO_2 max test 	
Respiratory exchange ratio 	

3. Explain why a forward in football, such as Lionel Messi, would benefit fro
(HIIT), and provide the key factors he should consider when taking part in

Explanation:

Co ideations:

-
-
-
-

4. Outline the three phases of plyometric exercises and identify and describe
this type of training.

1) Preloading phase

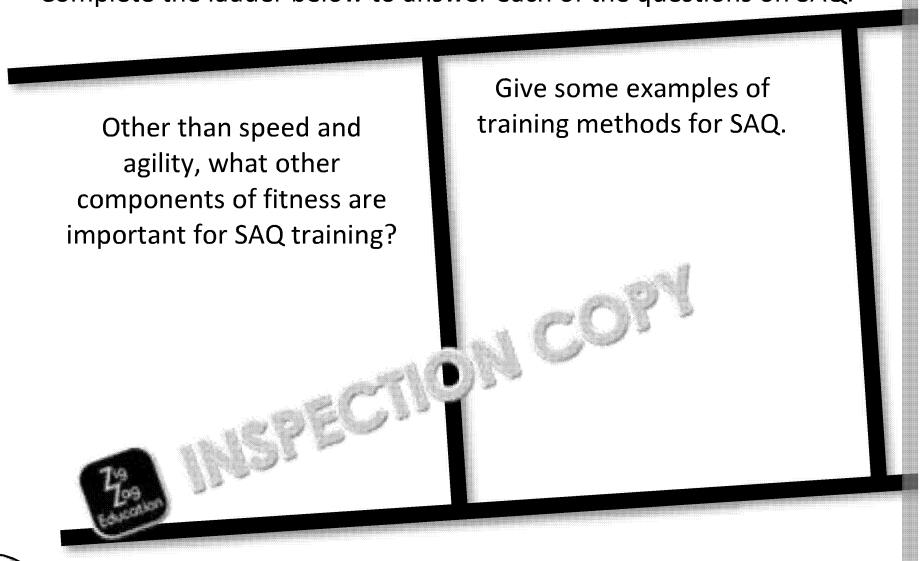
2) Amortisation phase

3) M contraction phase

Sport t

5. SAQ training develops the speed, agility and quickness of an athlete, whic

Complete the ladder below to answer each of the questions on SAQ.



Section C: Analyse and Evaluate

1. Discuss the use of acclimatisation to improve sporting performance

Exam-style Question

A Level Paper 1: Factors Affecting Participation in Physical Activity and Sp

1. Long-term effects of exercise include increased cardiac output and increas

   Explain how these effects affect VO_2 max.

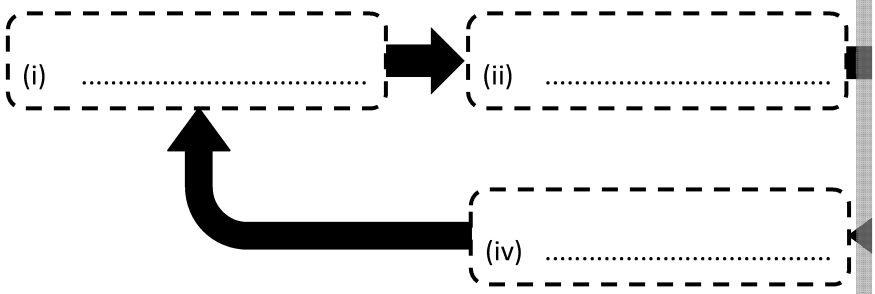
Topic 2: Memory Mod

Knowledge Checklist

The general information processing model: input, decision-making, output and feedback
Working memory model (Baddeley and Hitch)
Whiting's information processing model
Reaction time, response time and movement time
Factors that affect response time
Anticipation: temporal and spatial
Schmidt's schema theory
Strategies to improve information processing

Section A: Demonstrate Your Knowledge

1. (a) the flow chart below, naming the four different stages of the b processing model.



(b) Describe the four stages of basic (general) information processing.

(i) .....

.....

(ii) .....

.....

(iii) .....

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.....

2. Selective attention is an important process within the input stage of the g
model. It allows an athlete to decide what cue to pay attention to.

In the space given below, draw a diagram to represent the Working Mem
and Hitch.

3. (a) Define the terms 'reaction time', 'movement time' and 'response tim

Reaction time: .....

.....

Movement time:.....

.....

Response time: .....

.....

(b) Give an equation to demonstrate the rel. ti. .hip between reaction t
time.

.....

4. Describe the difference between simple reaction time and choice reaction

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5. (a) Define 'anticipation'.

.....

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(b) Name and define the two types of anticipation.

Name: .....

Definition: .....

.....

Name: .....

Definition.....

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6. a) Describe what is meant by the term 'schema'.

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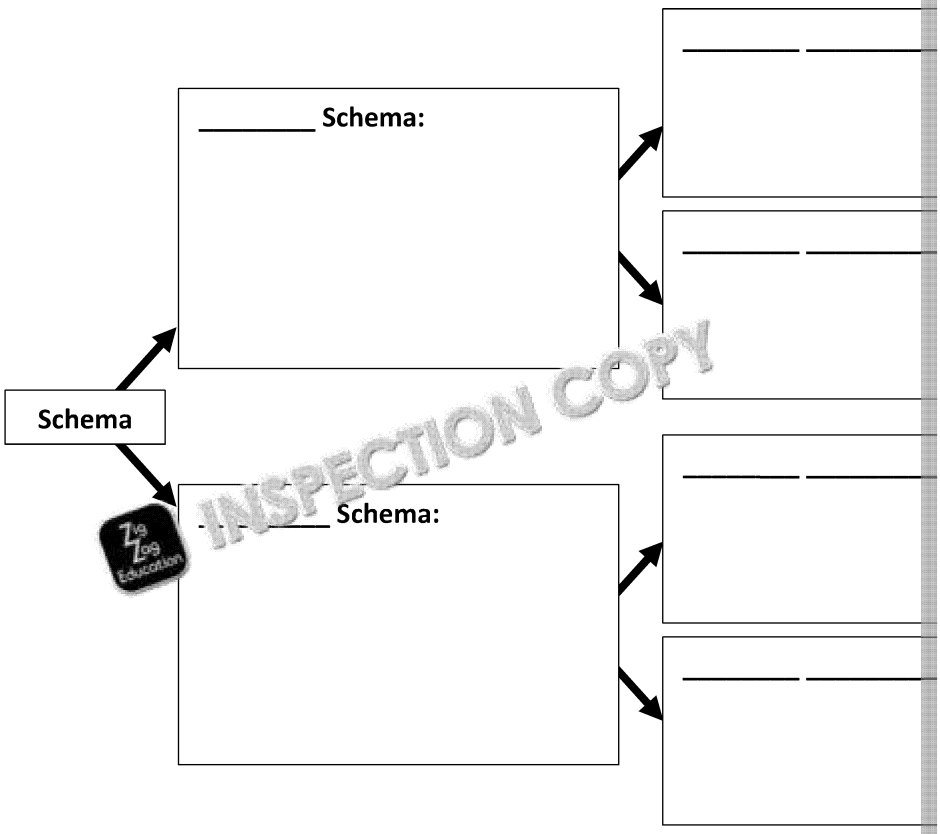
b) Schmidt's schema theory can be broken down into four parameters. identify and describe each of the parameters of Schmidt's schema th



7. Give three ways an athlete and/or coach could improve the selective atte efficiency of information processing.

i) .....

ii) .....

iii) .....

Section B: Apply Your Knowledge

1. Using sporting examples, name and describe **four** sources of feedback an stage of information processing.

   (i) .....

   .....

   (ii) .....

   .....

   (iii) .....

   .....

   (iv) .....

   .....

2. A beginner in rugby is learning how to catch a ball that has been kicked hi importance of **selective attention** in this scenario.

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3. Using the sporting example of a tennis player receiving a serve, explain th memory model.

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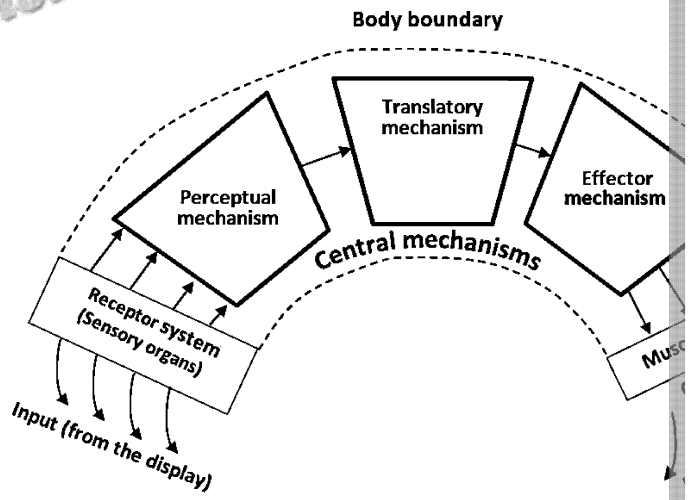
4. Using the diagram below and your own knowledge, describe the compone
processing mode . Use an example from sport to support your answer.



Display/environment: .....

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Sensory organs / receptor systems: .....

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Perceptual mechanism: .....

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Translatory mechanism: .....

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Effector mechanism: .....

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Muscular system and output data: .....

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Feedback data: .....

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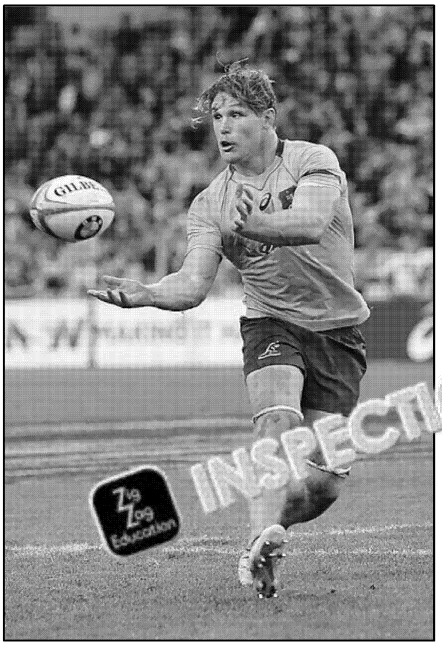
5. Using the practical example of a rugby player throwing a pass, describe ho
to adapt the skill in order to be successful.



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Section C: Analyse and Evaluate

1. Explain the three factors that can affect response time and draw a graph t

2. Suggest the strategies a coach could use to improve response time in spor

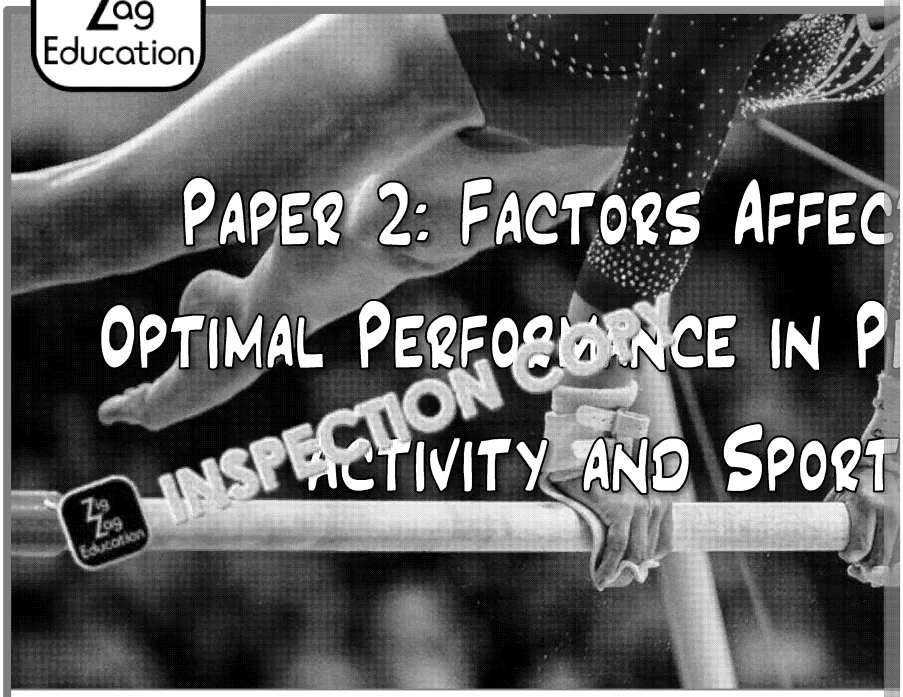
3. Explain two strategies a coach and an athlete could use to improve the de
athlete's information processing.

Exam-style Question

A Level Paper 1: Factors Affecting Participation in Physical Activity and Sp

1. Schema involves using core principles from existing motor programmes to
task.

   Suggest three ways a coach could organise training sessions to enable sch



Active Revision Work

For A Level (Year 2) AQA PE

Topic 3: Injury Preven
and Rehabilitation

Knowledge Checklist

Types of injury: acute and chronic
Methods used in injury prevention, injury rehabilitation and injury recovery
Physiological reasons for use of hyperbaric chambers and cryotherapy in injury rehabilitation
Importance of sleep and nutrition in rehabilitation and recovery

Section A: Demonstrate Your Knowledge

1. Define the following types of injuries.

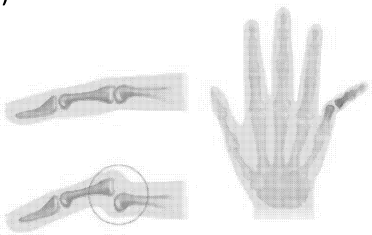
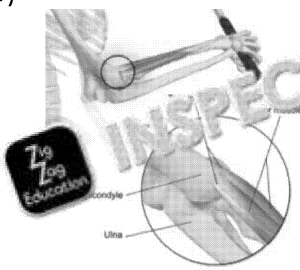
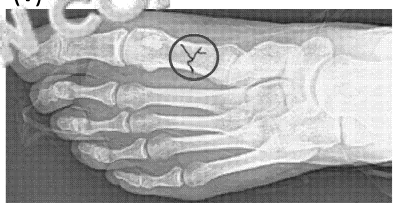
   (i) **Acute:** .....

   .....

   (ii) **Chronic:** .....

   .....

2. For the following images, categorise each as either a chronic injury or an a shown.

(i) 	(ii) 
Category: Injury Type:	Category: Injury Type:
(iv) 	(v) 
Category: Injury Type:	Category: Injury Type:

3. Name and describe three types of acute injury.

(i) .....

.....

.....

.....

(ii) .....

.....

.....

.....

(iii) .....

.....

.....

.....

4. Name three rehabilitation methods for injuries.

(i) .....

(ii) .....

(iii) .....

5. Some athletes may want to accelerate their recovery after exercise, ready competition.

Draw an image of and/or describe each of the following methods of recov

Compression garments	Foam rollers and massage	
C[illegible]apy	Ice baths	

Section B: Apply Your Knowledge

1. Identify a sport in which athletes are at a high risk of developing strains or

   Sport: .....

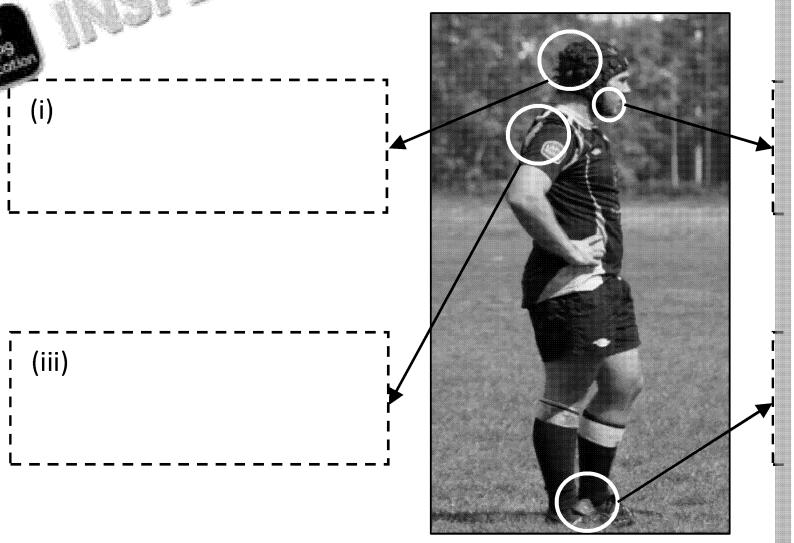
   Justification: .....

   .....

   .....

   .....

2. Annotate the image below, labelling the protective clothing rugby players
   Outline why the correct equipment/clothing is important to reduce the ris



   .....

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   .....

3. Describe the three stages of an effective warm-up and, using examples, ex
   injury.

   Stage 1 .....

   .....

   .....

   Sta .....

   .....

   .....

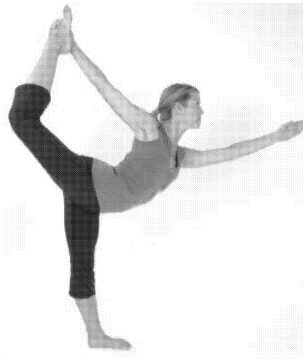
   Stage 3 .....

   .....

   .....

4. Identify and describe the types of stretch shown below, used during flexib

i)



Type of stretch:

Description:

ii)

Type of stretch:

Description:

iii)

Type of stretch:

Description:

iv)

Type of stretch:

Description:

Repeated up and down motion

Section C: Analyse and Evaluate

1. Copy and complete the table below to evaluate the use of screening as an

Advantages	Di

2. Identify the injury prevention or rehabilitation strategies shown in the ima help to prevent or limit injury.

a) 

b) 

3. Copy and complete the table below, explaining how each method aids rec example of an athlete who may use each recovery method.

Recovery method	How it aids recovery	A
Compression garments		
Foam rollers and massage		
Cold therapy		
Ice baths		
Cryotherapy		
Hyperbaric chambers		

4. Discuss the importance of sleep and nutrition in helping athletes to recov

Exam-style Question

A Level Paper 2: Factors Affecting [illegible] Performance in Physical Activity

1. Physiotherapists and sports medicine professionals often consider many r recovery from e[illegible] rehabilitate them from existing injuries.

   Explain the use of cryotherapy and hyperbaric chambers to recover from e injuries in games such as rugby.

Topic 4: Biomechanical M

A: Linear Motion and Angular Mo

Knowledge Checklist

Forces acting on athletes during linear motion
Definition, units, measurements and quantities of linear motion
Graphs of linear motion: the relationship between impulse and momentum
Application of Newton's laws to angular motion
Definition, units, measurements and quantities of angular motion
Graphs of angular motion: conservation of angular mo um during flight, mo inertia and relationship with angular velocity

Section A: Demonstrate Your Knowledge

1. Defi ear motion'.

   .....

2. Define 'angular motion'.

   .....

3. (i) What kind of force is produced by the skeletal muscles, allowing mov

   .....

   (ii) What kind of force creates angular motion through the application of rotation?

   .....

4. Define the quantities of linear motion given in the table below. Write a ca
state the unit of measurement for the quantity and identify whether each
quantity.

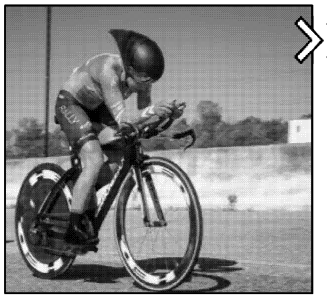
Quantity	Definition	Calculation
Mass		
Weight		
Distance		
Displacement		
Speed		
Velocity		
Acceleration/ deceleration		
Momentum		

5. Define the quantities of angular motion given in the table below. Write a
quantity and state the unit of measurement for the quantity.

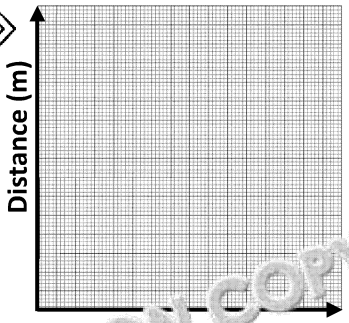
Quantity	Definition	Ca
Angular displacement		
Angular acceleration		
Moment of inertia		
Angular velocity		
Angular momentum		

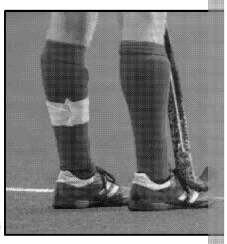
Section 8: Apply Your Knowledge

1. Draw a **distance–time graph** to illustrate the following scenarios:



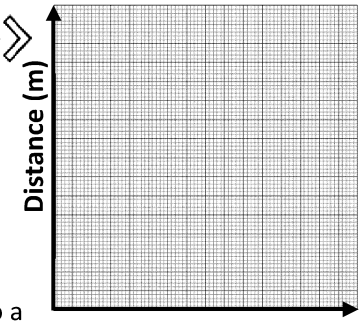
i) A cyclist gradually increasing their acceleration.

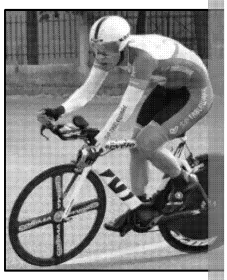




ii) A hockey play
standing on th
halfway line, v
for the ball.

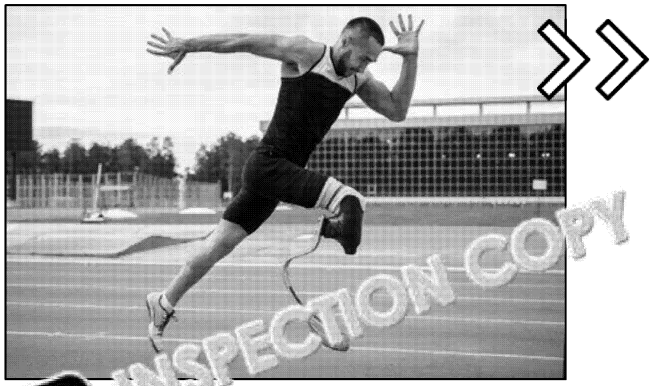
iii) A rugby player accelerating to get to a tackle, making a tackle and then running back into position.

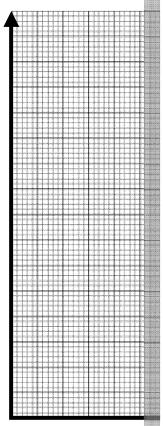




iv) A cyclist trave
constant spee
a flat section
race.

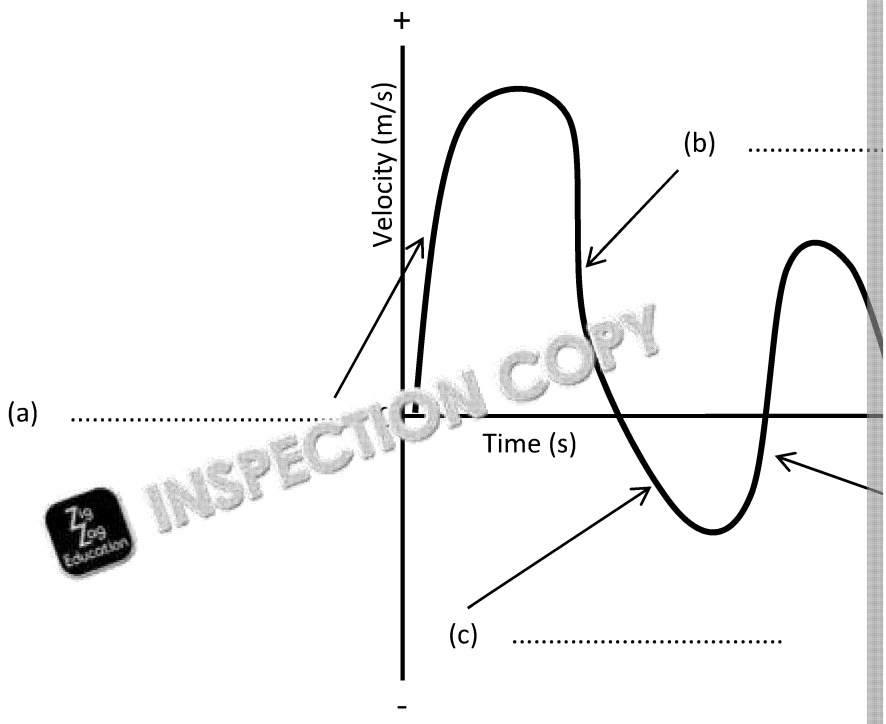
2. Draw a **speed–time graph** showing a sprinter accelerating from standing s
decelerating down to standing still again. Remember to label your axes.





3. (i) Label the velocity–time graph below with the following information:
   1. Deceleration
   2. Acceleration
   3. Acceleration in a different direction

4. Deceleration in a different direction

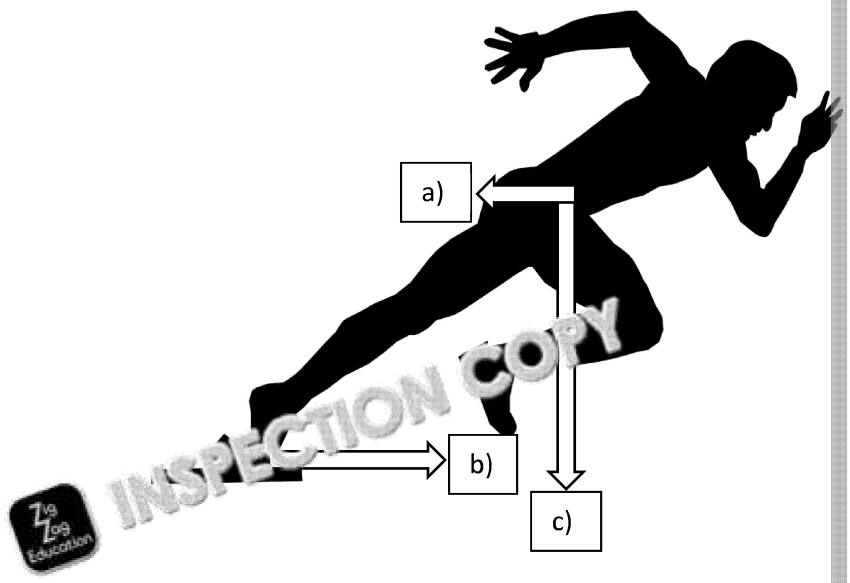


(ii) Give a sporting example of what the graph in 3(i) could be demonstra

.....

.....

4. Name and describe the forces that act on a sprinter when they leave the s



a) .....

.....

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b) .....

.....

.....

c) .....

.....

.....

5. Using sporting examples, describe Newton's three laws in relation to **angu**

Newton's first law: .....

.....

Sporting example: .....

Newton's se[illegible]: .....

.....

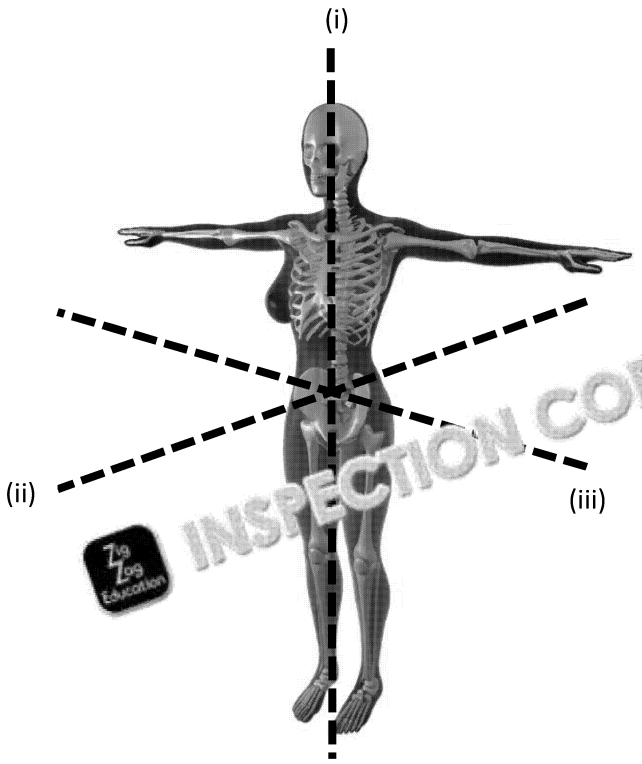
Sporting example: .....

Newton's third law: .....

.....

Sporting example: .....

6. Label each axis of rotation and provide a sporting example of a skill perfo



(i) **Name:** .....

Sporting examp

.....

(i) **Name:** .....

Sporting examp

.....

(iii) **Name:** .....

Sporting examp

.....

7. Describe the factors that affect the size of the moment of inertia of a rota

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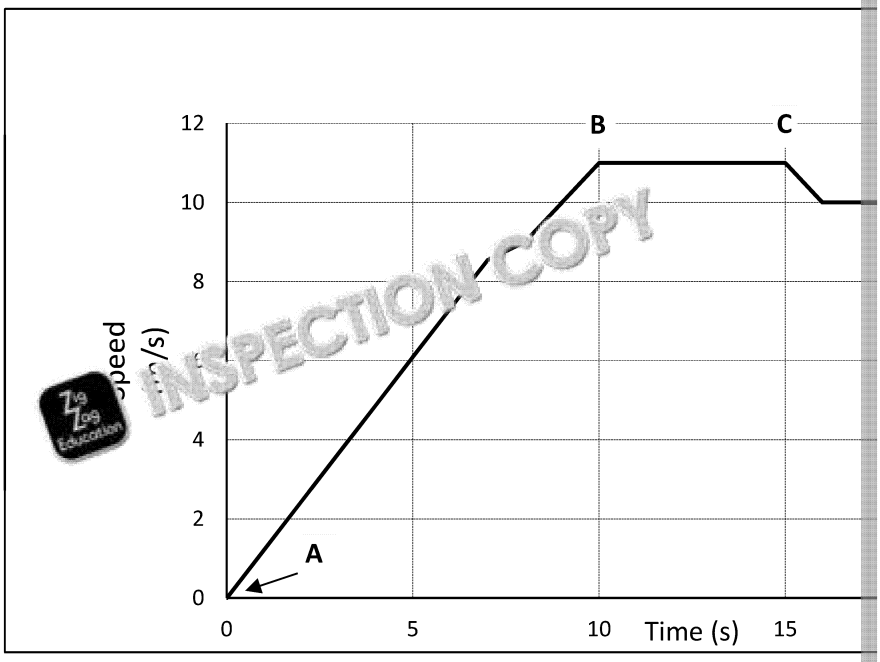
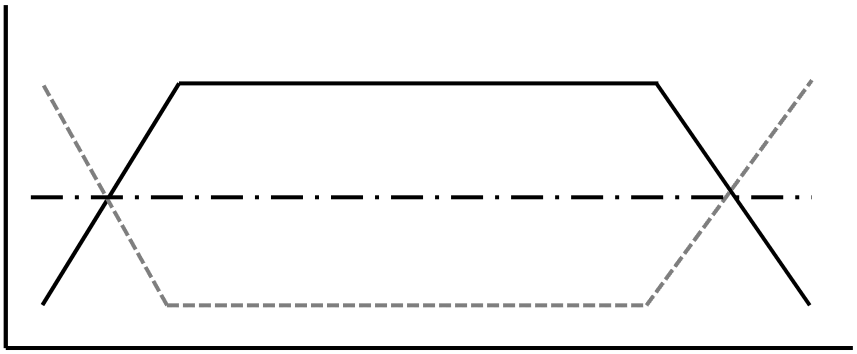
Section C: Analyse and Evaluate

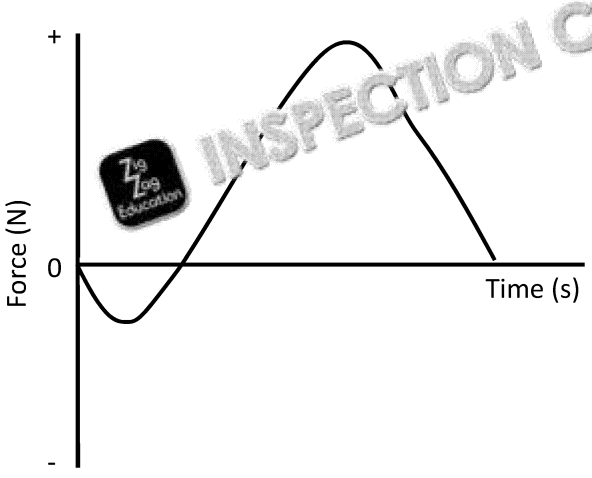
1. Below is a speed–time graph.
   Calculate the distance travelled between 'B' and 'C' and state what is hap
   Which athletics event does this graph represent?



2. Using the graph below, explain the relationship between an object's mome



3. Using figures A and B below, explain the relationship between impulse an
   sprinter as an example.



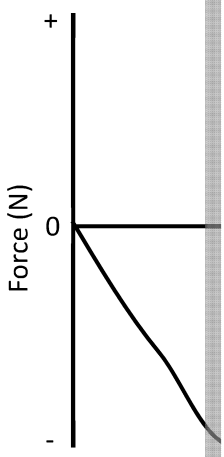


Figure A

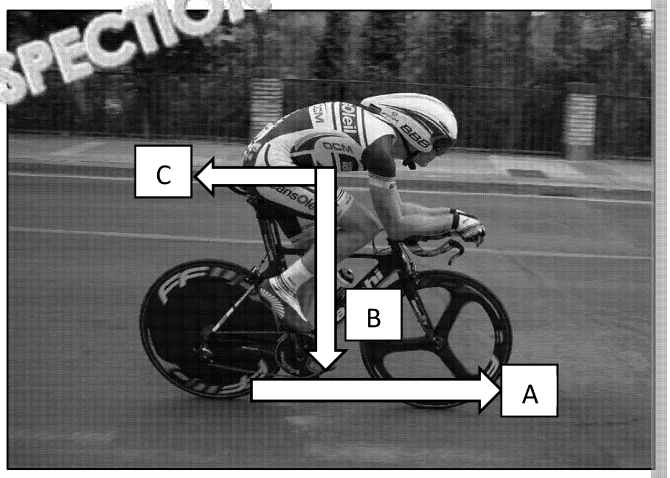
4. Explain how a diver could increase their angular velocity by changing their
to perform multiple rotations about the longitudinal axis.

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1.1 The image below shows a road cyclist moving in a forwards direction.

Complete the table below, identifying the three forces acting on the cyclis



Force		
A	B	

1.2 Explain, using Newton's second law, how force (torque) impacts the speed

Topic 4: Biomechanical Mo

8: Fluid Mechanics and Projectile

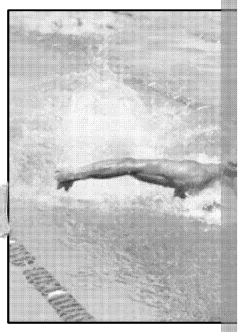
Knowledge Checklist

Factors that affect drag (in water) and air resistance of moving objects
Projectile motion: factors affecting flight paths of different projectiles
Projectile motion: parabolic and non-parabolic flight paths and their vector compo
Fluid mechanics: use of the Bernoulli principle and factors to reduce/increase lift

Section A: Demonstrate Your Knowledge

1. On th... ag... , annotate and identify three factors that determine t... pro...

2. Name and describe five factors that affect air resistance and drag acting o... through water.



Fact.....

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Factor 2:.....

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Factor 3:.....

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Factor 4:.....

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Factor 5:.....

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3. Describe the difference between a parabolic flight path and a non-parabo

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Section B: Apply Your Knowledge

1. Draw a free body diagram of the following, include the flight direction, flig object in flight:

A shot moving in a parabolic flight path:

Flight path (line):

A shuttlecock mo

2. Explain how an athlete throwing a discus would use Bernoulli's principle t

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3. Describe how the following sports would create a downwards lift force an creating downwards lift for each sport.

Track cycling:

How? .....

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Importance: .....

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Speed skiing:

How? .....

.....

Importance: .....

.....

Section C: Analyse and Evaluate

1. Suggest reasons why certain sports would want to optimise the Bernoulli advantage.

2. Discuss the factors a shot-put athlete would consider to maximise the hor shot.

Exam-style Question

A Level Paper 2: Fac[illegible] Affecting Optimal Performance in Physical Activity

1. Bel[illegible]n image of a Formula One racing car.

Expl[illegible]ow the Bernoulli principle can be applied to create drag in Formu factors that influence drag on the car.

Topic 5: Psychological Factors
Physical Activity

A: Achievement Motivation Theo

Knowledge Checklist

Atkinson's model of achievement motivation
Characteristics of personality components related to achievement motivation
Impact of situational component of achievement motivation
Achievement goal theory
Strategies to develop approach behaviours to improve performance

Section A: Demonstrate Your Knowledge

1. Defi hievement motivation'.

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2. It is suggested that there are two personality types when it comes to achi

Explain the difference between the two personality types.

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3. Suggest why it is advantageous to have a need-to-achieve personality in s

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Section B: Apply Your Knowledge

1. England are two points down against New Zealand in the third quarter of

   Describe how an English player who has a need-to-achieve (NACH) perso
   from the same team who has a need-to-avoid-failure (NAF) personality wi
   game situation.

2. Serena Williams has played her first Wimbledon tournament since giving b
   played a handful of matches since giving birth.

   Suggest what would happen during the match if Serena had a need-to-avo

3. Explain how the situation an athlete is in can impact on a need-to-achieve
   need-to-avoid-failure (NAF) personality.

   Use sporting examples to support your answer.

Section C: Analyse and Evaluate

1. Assess the advantages and disadvantages of achievement goal theory, usi
your answer.

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. A hockey coach wants members of the team to show more approach beha

   Suggest three strategies a coach could adopt in order to improve the appr

Topic 5: Psychological Factors
Physical Activity

B: Attribution, Confidence and Self-

Knowledge Checklist

Weiner's model of attribution
The link between attribution, task persistence and motivation
Self-serving bias and attribution retraining
Learned helplessness as a barrier to sports performa[illegible]d strategies to overcome learned helplessness
Characteristics of self-efficacy, self-c[illegible]ce and self-esteem
Bandura's theory of self-effic[illegible]y
Vealey's model of sp[illegible]nce
Home fi[illegible]dv[illegible]
Strateg[illegible]crease self-efficacy

Section A: Demonstrate Your Knowledge

1. Define the term 'attribution'.

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2. Complete the table representing Weiner's model of attribution. Include th dimensions.

3. Outline Weiner's model of a[illegible]ti[illegible].

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4. Define 'learned helplessness'.

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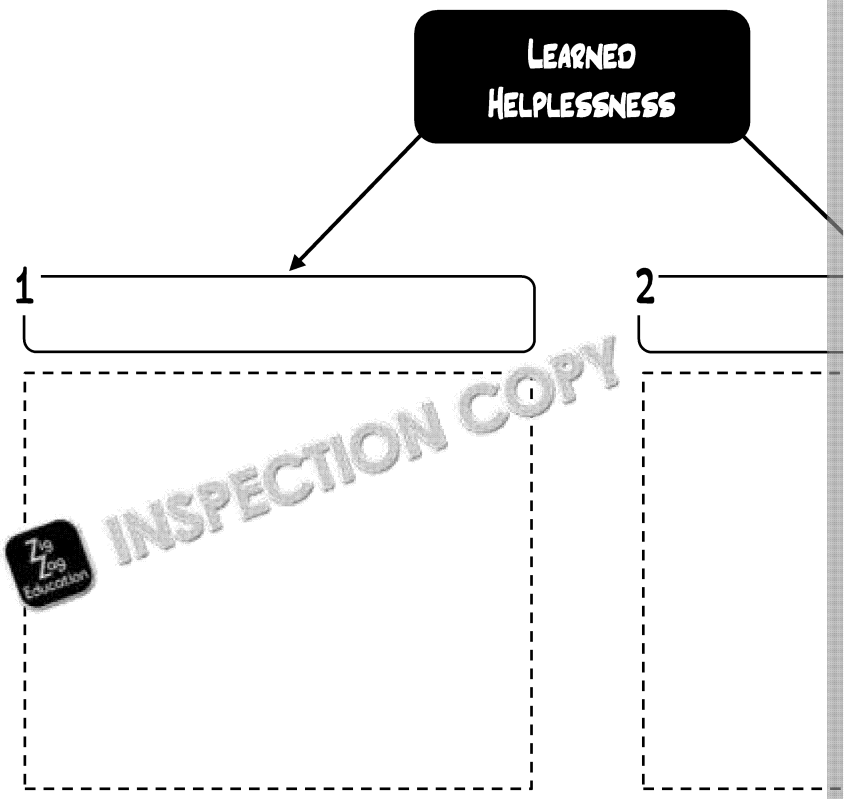
5. Identify the two types of learned helplessness and provide a description o



6. (i) Define 'self-confidence'.

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(ii) Define 'self-efficacy'.

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(iii) Define 'self-esteem'.

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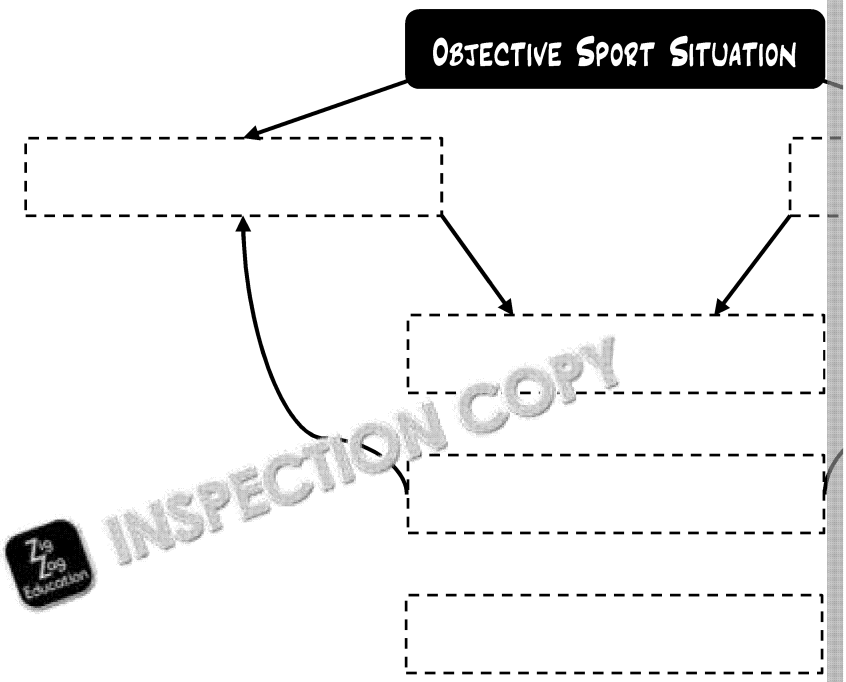
7. Complete Vealey's model of sports confidence and provide a description o



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8. Name and describe the four factors Bandura identified as influencing self-

i. .....

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ii. .....

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iii. .....

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iv. .....

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Section B: Apply Your Knowledge

1. A coach of a losing football team gives a post-match interview. He attribut
externally controlled factors. What externally perceived locus would the c

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2. A rugby team has won a match. The captain attributes their success to sta
Give an example of what success is being attributed to.

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3. Exp link between self-serving bias and self-esteem.

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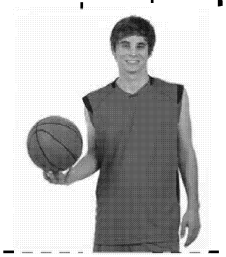
4. Give examples of how a basketball player may exhibit the two types of lea

Type 1: _____ Type 2:



5. A badminton player has lost a few matches in a row. Explain how, by deve
attribution retraining, they can increase their motivation and task persiste

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6. Give sporting examples of how the four factors identified in Bandura's the athlete's self-efficacy.

Performance accomplishments.....

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Vicarious experience .....

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Verbal persuasion .....

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Emotional arousal .....

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Section C: Analyse and Evaluate

1. Analyse how sports confidence can impact on *performance*, *participation*

2. Analyse the potential strategies that athletes or coaches could use to avoi improvements in performance.

3. Team GB had their most successful Olympics ever at the 2012 London Oly England rugby team were knocked out during the pool stages of the 2015 England.

   Evaluate the possible effects playing at home can have on performance.

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. Confidence in a team is pivotal to success, seen with England's recent Wo

   Suggest three strategies a coach can use to improve confidence in their te

Topic 5: Psychological Factors
Physical Activity

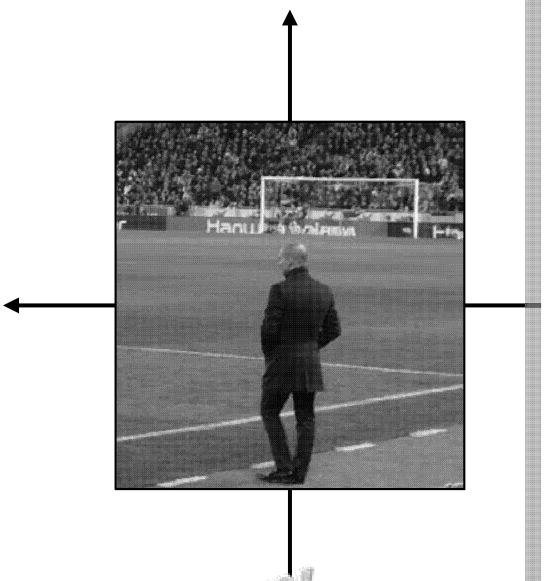
C: Leadership in Sport and Stress Ma

Knowledge Checklist

Leadership: types of leader, characteristics of leaders, styles of leadership
Use of leadership styles in different sporting scenarios
Prescribed and emergent leaders
Theories of leadership: Fiedler's contingency theory a elladurai's multidimensional model
Stress: causes and effects on perform
Stress management techniqu and somatic
Use of a warm-up fo agement

Section A: Demonstrate Your Knowledge

1. Name the characteristics of an effective leader.



2. Using examples, describe the difference between *emergent leaders* and *p*

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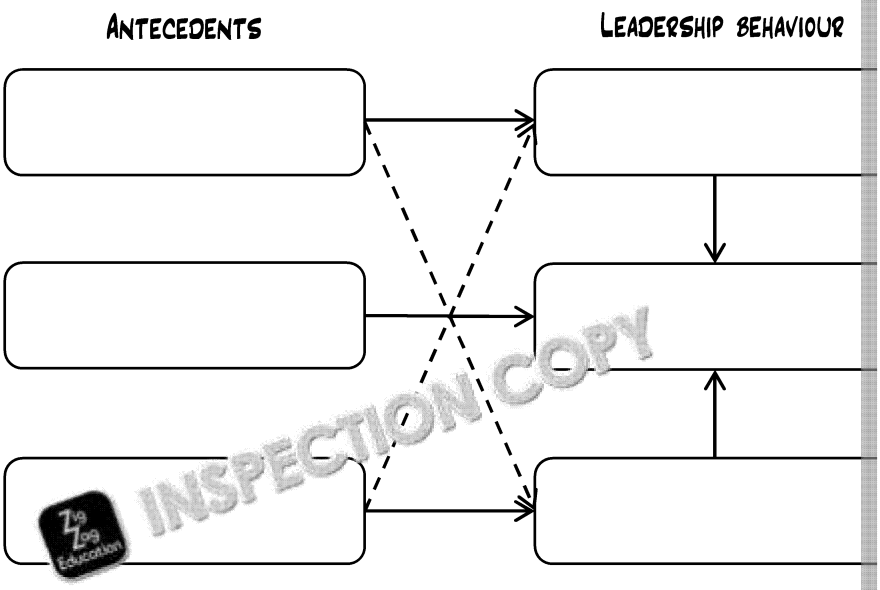
3. Identify the three factors that Chelladurai stated could affect leadership s
leadership behaviour.



4. (i) Define 'stress'.

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(ii) Identify three causes of stress in sporting situations.

1. .....

2. .....

3. .....

5. Name four methods of somatic stress management.

1. .....

2. .....

3. .....

4. .....

6. Describe the positive effects performing a warm-u n have on the stres

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7. Suggest which style of leadership best suits a moderately favourable situa
contingency model of leadership.

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Section B: Apply Your Knowledge

1. Kieran Read is the captain of the All Blacks rugby team. Is Read an *emerge*
   Justify your answer.

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2. A swimming teacher is teaching a group of novice, young children how to

   Using Chelladurai's model of sports leadership, explain how the leadership
   the chances of good group performance or member satisfaction.

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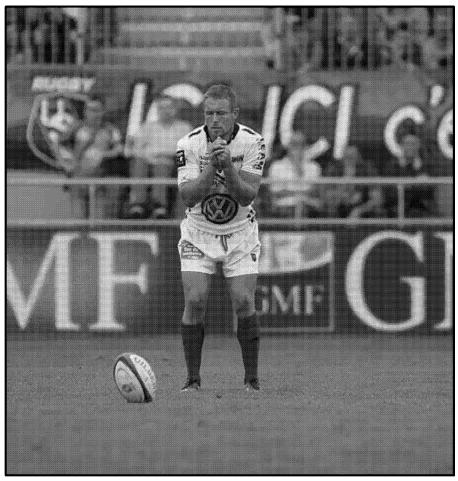
3. Jonny Wilkinson used mental rehearsal before his penalty and conversion



   Describe mental rehearsal and then identify and briefly explain **one** other
   technique he could have used to control his stress levels.

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Other stress management technique:

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4. Define the terms 'attentional control' and 'cue utilisation' and, using spor somatic techniques can be used to manage st...

Attentional control: .....

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Cue ...tion: .....

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Explanation: .....

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5. A situation in football has been identified as least favourable. Suggest wh autocratic leadership style.

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Section C: Analyse and Evaluate

1. Sir Alex Ferguson was a very successful leader. He may have adopted a de
   Analyse democratic leadership and the other styles of leadership.

2. Using examples, discuss the somatic stress management techniques.

Exam-style Questions

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. It is important for athletes to control their stress levels to allow them to p

   Which one of the following is an example of a cognitive stress manageme

   a) Biofeedback

   b) Visualisation

   c) Breathing control

   d) Centring technique

Topic 6: Concepts of Physical Sport

Knowledge Checklist

Characteristics and functions of physical recreation, sport, physical education a school sport that make the sporting development continuum
Similarities and differences between key concepts: physical recreation, sport, physical education and school sport

Section A: Demonstrate Your Knowledge

1. Define the terms 'physical recreation', 'sport', 'physical education' and 'sc

Phy[illegible]

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Sport.....

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Physical education .....

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School sport .....

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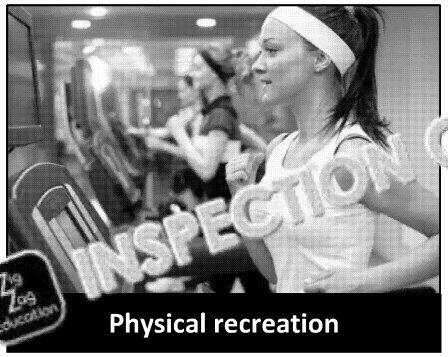
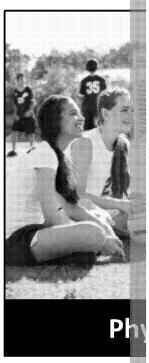
2. Annotate the images below to identify the main characteristics of each sp



Physical recreation



Ph

Sport

Section B: Apply Your Knowledge

1. For each of the sporting terms given below, describe the functions (aims) them, or the society, can achieve.

Physical recreation

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Sport

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Physical education

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School sport

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2. Complete the triangular model of PE to describe how the factors link toge
development continuum, using examples.

Factor: .....

Description: .....

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Example: .....

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Factor: .....

Description: .....

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Example: .....

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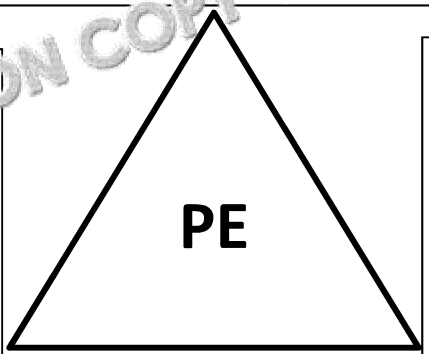
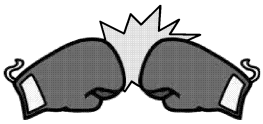


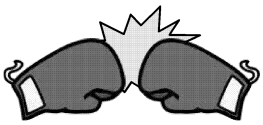
Section C: Analyse and Evaluate

1. For the following pairs, assess the similarities or differences between the



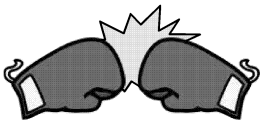
PE vs school sport

Similarities	



Physical recreation vs spo

Similarities	



Physical recreation vs P

Similarities	

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. Explain how **school sport** helps to support and develop young individuals.

Topic 7: Development of Elite P
Sport

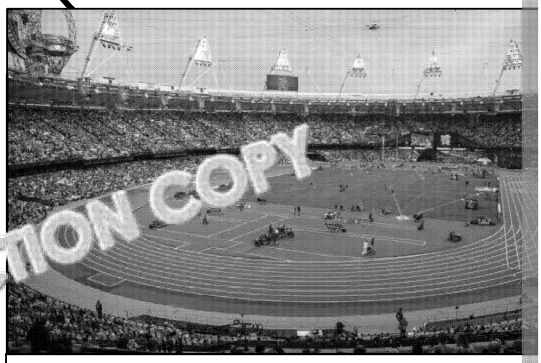
Knowledge Checklist

Athlete development from talent identification to elite sport: personal, social an cultural factors in sports progression
National governing bodies (NGBs), national institutes and UK Sport: roles, purp and relationships
NGB's Whole Sport Plans features
UK Sport: World Class Performance Programme, Gold E nt Series and Talent and Development

Section A: Demonstrate Your Knowledge

1. Ann he images below to identify the key features of UK Sport's Wor Gold Event Series and Talent ID and Development.

World Class Performance Programme

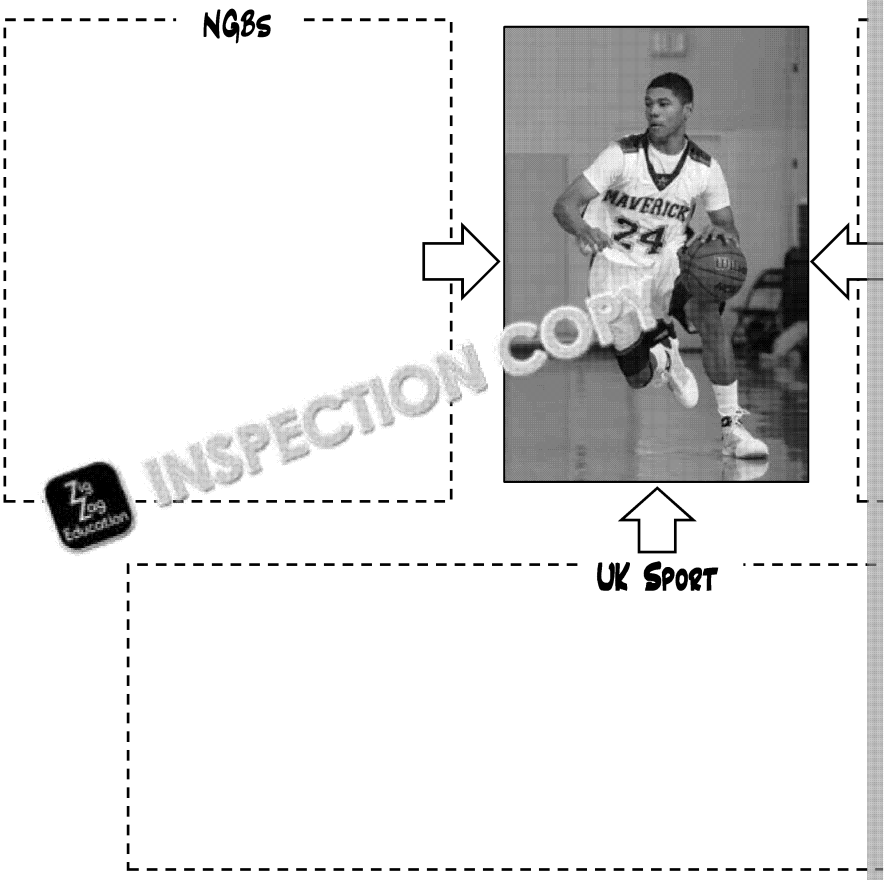


Gold Event Series

Talent ID and Development

Revision Tip:
The specification indicates you can identify the key features of other equivale is therefore important that you keep up to date with the latest UK sport initia name or objectives occasionally.

2. Outline the roles and purposes of national governing bodies, national inst
developing athletes from talent ID to elite sport.



3. (i) Name the four national institutes in Britain that aim to develop sport

(i) .....

(ii) .....

(iii) .....

(iv) .....

(ii) What are the national institutes' sources of money for providing supp

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Section B: Apply Your Knowledge

1. Explain the importance of national governing bodies' whole sport plans.

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2. An athlete has received coaching from a British National Institute. What services the National Institute to help them develop sporting excellence?

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3. Using Team GB as an example, explain the role of UK Sport in developing

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Section C: Analyse and Evaluate

1. Discuss the personal, social and cultural factors that are required to allow identification to elite performance.

Exam Style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. Explain the term 'national governing body' and, using examples, outline the bodies have in place to aid sporting development.

Topic 8: Sporting Ethics, Violenc and the Law

Knowledge Checklist

Ethics in sport: amateurism, Olympic Oath, sportsmanship, gamesmanship and win ethic
Positive and negative forms of deviance
Causes of violence and implications of violence for the performer, sport and spect
Strategies for preventing violence among performers and spectators
Physiological, social and psychological reasons for, and consequences of, taking drugs in sport for the performer, sport and spectator
The positive and negative implications of taking drugs for the performer and the sport
Strategies used to eliminate drugs/doping in sport
Arguments for and against drug testing in sport
The use of sports legislation to prevent unethical behaviour, in relation to performers, officials, coaches and spectators

Section A: Demonstrate Your Knowledge

1. Define the terms 'amateurism', 'sportsmanship', 'gamesmanship' and 'win

Amateurism: .....

.....

Sportsmanship: .....

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Gamesmanship: .....

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Win ethic: .....

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2. In the opening ceremony of the modern Olympic games, an athlete, repre Olympic Oath on behalf of all competing athletes. Outline the key point of

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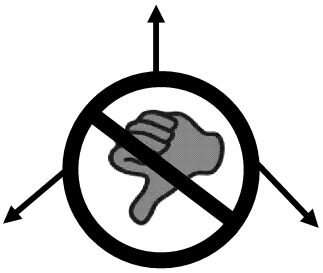
3. Name **three** illegal supplements used in sport.



4. Give social and psychological reasons why an elite performer may use illeg

Social reasons: .....

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Psychological reasons: .....

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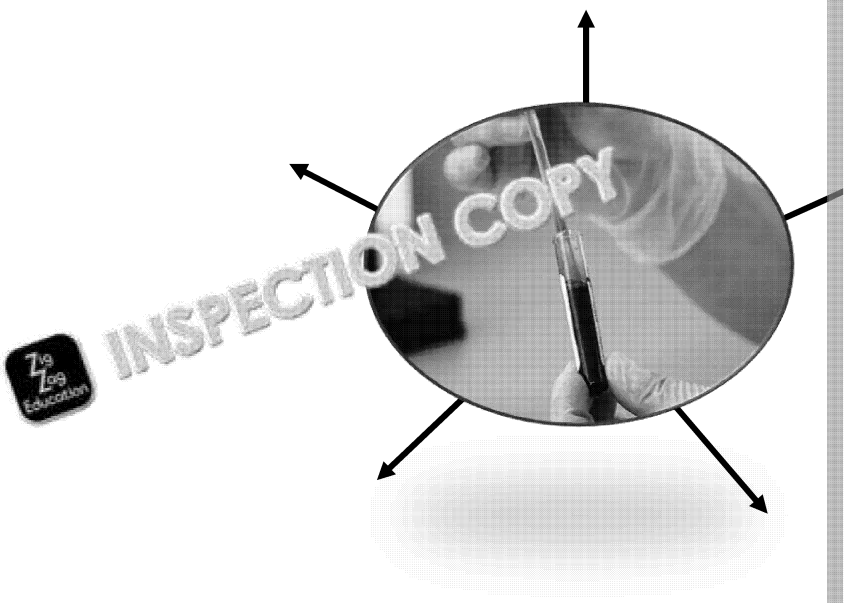
5. Identify the ways that UK Anti-Doping (UKAD) and the World Anti-Doping prevent doping in sport.



6. Describe how education can be used to stop the use of illegal drugs in spo

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7. a. Suggest some possible causes of some sports performers demonstrat

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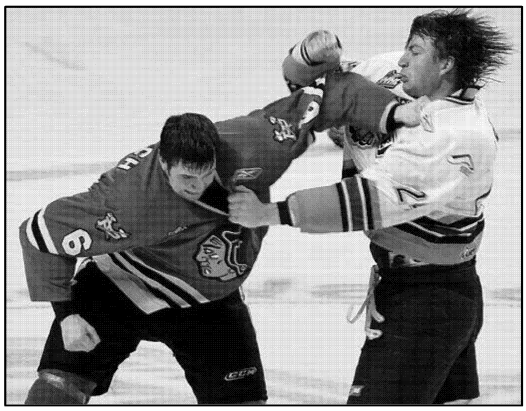
b. Name the consequences of violent behaviour to the **performer** in the



(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

(vi) .....

8. Describe the reasons why spectators in sport can exhibit aggressive behav

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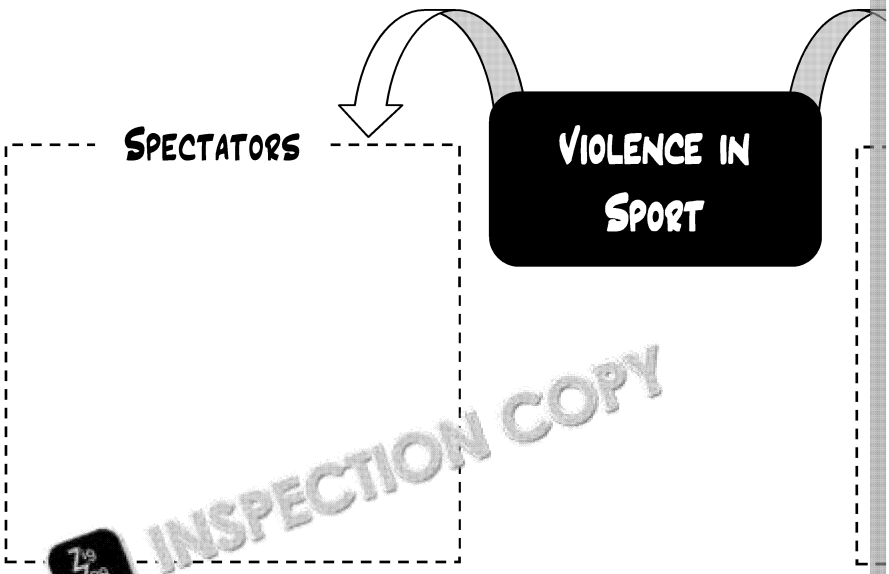
9. Outline the implications of violent behaviour for **spectators** and for **sport**.



Section 8: Apply Your Knowledge

1. Justin Gatlin has served two bans from his sport for testing positive for ille

   Describe the possible negative consequences he will have faced as a perfo

   .....

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2. Identify whether the sporting scenarios below are examples of sportsman

   i. A footballer purposefully brings down an opponent who has made a r with the goalkeeper, receiving a yellow card for their challenge.

      .....

   ii. Following a minor disagreement and tussle, two rugby players apolog with each other.

      .....

   iii. A tennis player's shot is called 'out of court'. Their opponent informs the court so they should challenge the umpire's decision – whi wrong.

      .....

   iv. A football player's team is leading with only a few minutes of the gam goal kick, the leading team's players take a few seconds extra each ti down the clock.

      .....

3. Fill in the table below, giving sporting examples of positive deviance and n

Positive deviance	N

4. Describe the ways in which players and spectators can be punished using s display deviant or unwanted behaviour.

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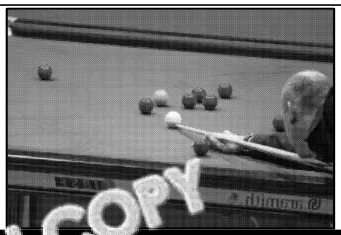
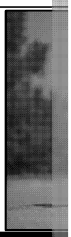
Section C: Analyse and Evaluate

1. Using the sporting examples given below, explain the physiological effects evaluate the impact each has on performance in the given sports they are

Anabolic steroids – Sprinte



Be… blockers – Snooker player



Eryt… Lo…

2. Eval… the … and negative implications that doping and taking ille… **per**… and **sport**.

3. Discuss the arguments for and against taking drugs and testing for drug of

4. Examine the strategies being used in sport to prevent violence in **perform**

5. Explain the influence sports legislation has had on officials and coaches.

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

1. Evaluate why some performers display violence.

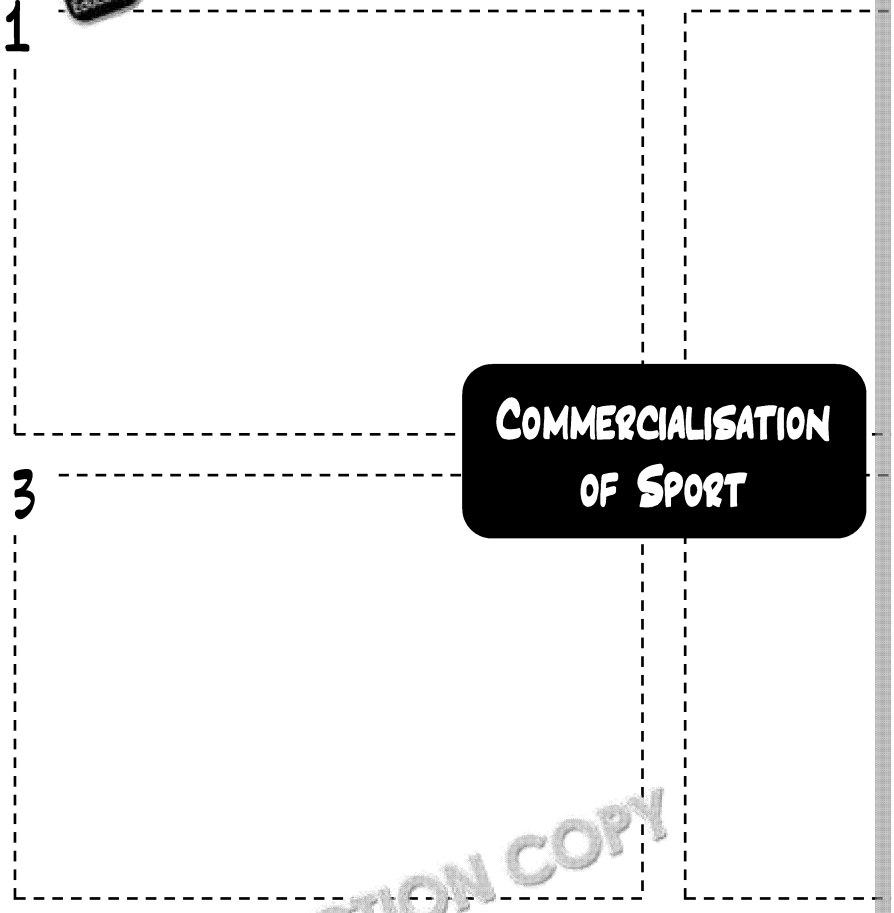
Topic 9: The Impact of Commer
Physical Activity and Spor
Relationship between Sport a

Knowledge Checklist

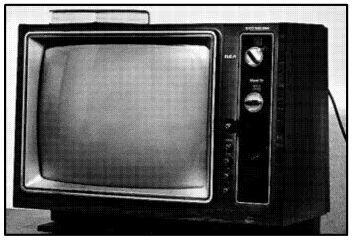
Factors that have contributed to the commercialisation of sport
Impacts of the commercialisation, sponsorship and the media on: performers, coaches, officials, audiences and individual sports
The relationship between sport and the media: *the golde triangle*

Section A: Demonstrate Your Knowledge

1. Ide nd scribe four factors that have led to the commercialisation



2. Describe the changes in television coverage from the 1980s to today.



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3. Describe how written press and the Internet have changed to cover sport.

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4. (a) Identify five positive impacts media can have on a performer.

(i) .....

(ii) .....

(iii) .....

(iv) .....

(v) .....

(b) Identify three negative impacts the media can have on a performer.

(i) .....

(ii) .....

(iii) .....

5. (a) Identify four positive impacts the media can have on the audience.

(i) .....

(ii) .....

(iii) .....

(iv) .....

(b) Identify four negative impacts the media can have on the audience.

(i) .....

(ii) .....

.....

(iv) .....

6. Why is sport being increasingly viewed as a 'commodity', due to the medi

.....

.....

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.....

7. (a) Identify two positive impacts commercialisation has had on audience

(i) .....

(ii) .....

(b) Identify two negative impacts commercialisation may have on audier

(i) .....

(ii) .....

Section B: Apply Your Knowledge

1. Manchester United Football Club is one of the biggest clubs in the world an

   Describe the positive and negative impacts media coverage has on individ

   .....

   .....

   .....

   .....

   .....

2. Using a profe[illegible] club of your choice, draw and explain the 'golden tria

   .....

   .....

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   .....

3. Nigel Owens is a high-profile referee in rugby.

   Describe the positive and negative effects the [illegible]a may have on officials

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Section C: Analyse and Evaluate

1. Evaluate the impacts of commercialisation on coaches and officials.

2. Discuss the effects increased media has had on coaches.

3. Copy and complete the table below, identifying the positive and negative on performers and individual sports.

Effects of commercialisation on...	Positiv	
Individual sports		
Performers		

Exam-style Question

A Level Paper 2: *Factors Affecting Optimal Performance in Physical Activity*

1. Sport and its athletes are often seen as a commodity.

   Explain the impact sponsorship has had on sport.

Topic 10: The Role of Technolo
Activity and Sport

Knowledge Checklist

Functions of sports analytics
Development in sports equipment and facilities and the impact of these change
The positive and negative effects of technology in sport on individual sports, performers, coaches and audiences

Section A: Demonstrate Your Knowledge

1. Identify four ways that modern fitness-tracking devices such as phone tra

   (i) .....

   (ii) .....

   (iii) .....

   (iv) .....

2. Explain how the development of facilities and equipment has impacted or of elderly and disabled populations.

Facilities

3. Ide ve functions of modern technology and sports analytics.

   (i) .....

   (ii) .....

   (iii) .....

   (iv) .....

   (v) .....

4. Identify and describe two pieces of equipment that aid in injury preventio

(i) **Equipment 1:** .....

Description: .....

.....

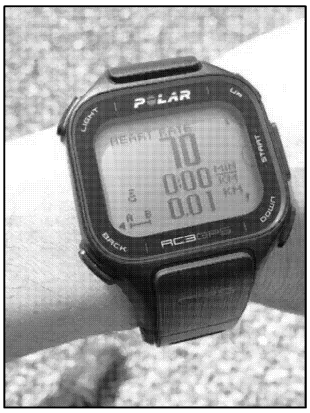
(ii) **Equipment 2:** .....

Description: .....

.....

SECTION B: APPLIED KNOWLEDGE

1. Exp... usefulness of modern technology in monitoring fitness for per



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2. Using sporting examples, Identify and describe **two** pieces of sporting tec development.

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3. Football is sport that uses a lot of modern technology during matches and

Explain the impacts modern technology has had on game analysis and tale

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Section C: Analyse and Evaluate

1. Explain how modern technology has affected elite level sport.

2. Copy and complete the table, identifying the positive and negative impact populations within sport.

	Positive impacts	
Sport		
Performer		
Coach		
Audience		

Exam-style Question

A Level Paper 2: Factors Affecting Optimal Performance in Physical Activity

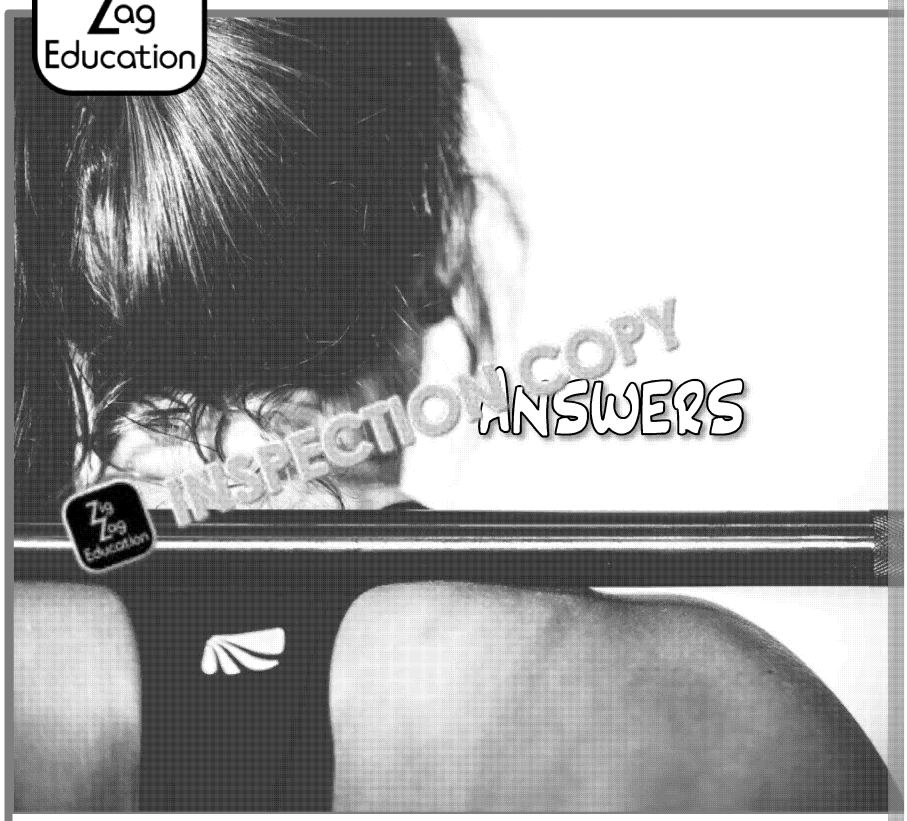
1. Which of the following is **not** a function of sports analytics?

   a) Providing adapted equipment

   b) Injury prevention

   c) Game analysis

   d) Talent identification



Active Revision Work

for A Level (Year 2) AQA PE

Topic 1: Energy Systems

A: Energy Transfer in Physical Activity

Section A:

1. ATP is the 'energy currency' of the body. The breakdown of ATP provides the ene

2. In the muscle cells.

3. ATP = ADP + P + Energy

4. (a) Phosphocreatine (PC)
   (b) PC = P + C + Energy
   (c) Energy + ADP + P = ATP

5. (i) ATP-PC System
   (ii) Anaerobic gly
   (iii) A bic

6.

	ATP-PC System	Anaerobic Glycolytic
Type of Reaction	Anaerobic	Anaerobic
Chemical / Food Source	Phosphocreatine (PC)	Glucose
Site of Reaction	Sarcoplasm of the muscles	Sarcoplasm of the musc
Controlling Enzyme	Creatine kinase	Phosphofructokinase Lactate dehydrogenase (L
ATP Yield	1 ATP	2 ATP
By-products	Adenosine diphosphate and 1 phosphate	Lactic acid and NADH

7. 1) … **phosphofructokinase** (PFK) and **glycogen phosphorylase**
   2) … **pyruvate** is converted to **lactic acid**…
   3) … **pyruvate** is converted to **acetyl coenzyme A**…

   Name of energy system: **anaerobic glycolytic system**

8. EPOC = Excess post-exercise oxygen consumption
   - Following completion of exercise, the body still requires oxygen to replenish
   - There is an increased consumption of oxygen following exercise (compared
   - **EPOC has two components:**

     Fast component:
     - Alactacid oxygen debt
     - Concerns replenis t dy's blood supply and muscle oxygen stor
     - Aids the re of ATP and PC in the body
     - AT tores replenished within three minutes

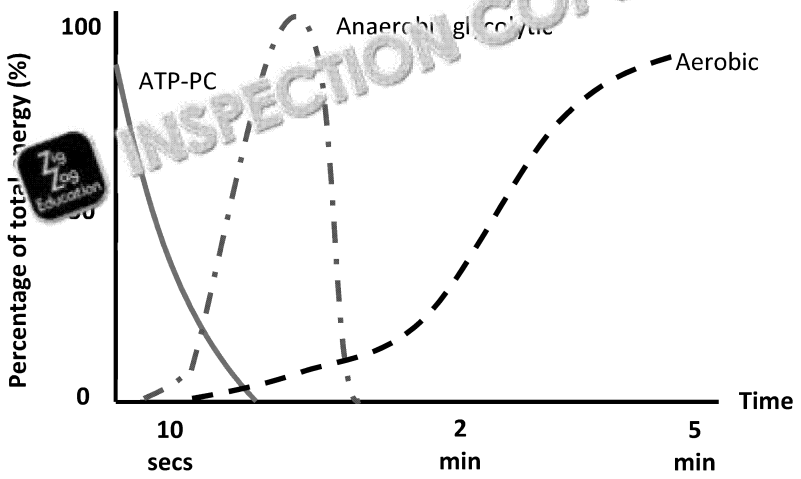
     omponent:
     - Lactacid oxygen debt
     - High body temperature remains after vigorous activity
     - Cardiac output and ventilation rates remain elevated
     - Aids the removal of lactate (and thus fatigue) from the muscles and co and some to carbon dioxide and water for removal
     - It can take up to 24 hours to replenish glycogen stores, depending on th

9. • OBLA – onset of blood lactate accumulation; the build-up of lactate that occ
   • Lactate threshold – the intensity of exercise (normally occurs at approximat
   levels accumulate faster than they can be removed.

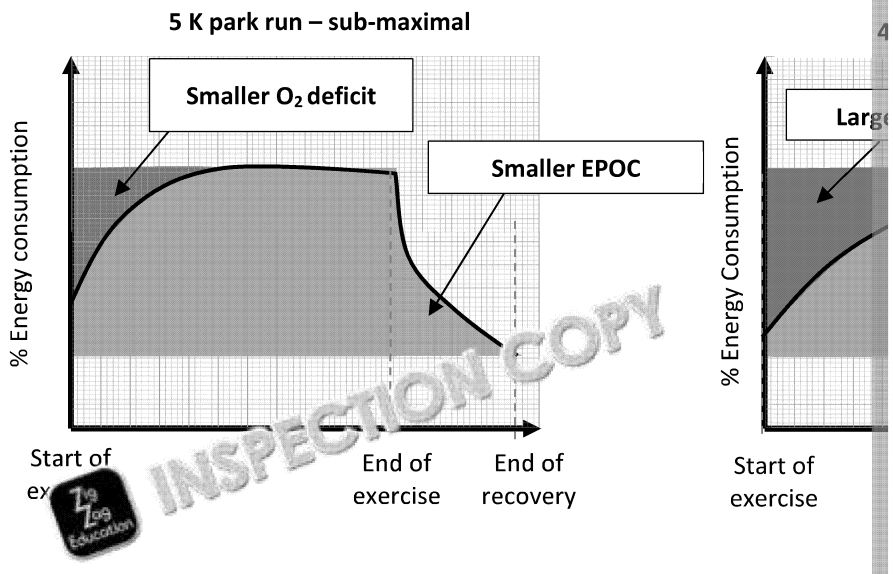
10. 1. Glycerol
    2. Free fatty acids
    3. Acetyl coenzyme A
    4. Krebs cycle

Section B:

1. Graph should be similar to the one below, with relevant axes labelled and should
   identified, and when the next energy system takes over



2. Graphs should be drawn to illustrate a 5 K runner to have a smaller O_2 deficit, an
   Example graphs:



3. Any from the following:
   - A 100 m sprinter's training would utilise the ATP-PC system primarily
   - 100 m sprinting is a high-intensity exercise that uses high amounts of energy
     10–15 seconds)
   - 100 m sprinters would ensure their training includes short bursts of exercise
   - They would also incorporate long rest periods between sets (3 minutes) – gi
     stores to restore
   - Training in this way would mean that their ATP-PC system can be used for lo
     glycolytic) energy system takes over as the primary energy system
   - ATP-PC energy system provides rapid release of energy for the sprinter, whi
     for the short race

4. - As exercise intensity increases, so does the time it takes to recover
     - Intensity is best evaluated using VO_2 max
     - e.g. Sprinter – anaerobic – ATP-PC system would require more of a rec
       uses aerobic energy system at low intensity.
     - e.g. Middle distance runner training at 50% VO_2 max would take less ti
       competing at 85% VO_2 max.
     - e.g. 100 m sprinter – anaerobic glycolytic system – if the athlete does n
       lactic acid accumulates in the blood, causing fatigue.
     - Also consider duration of activity – e.g. a marathon performed at a low
       recovery time (up to 24hrs) than a 100 m sprinter (up to three minutes)

5. - It's possible that, due to lack of specialised training, she will not have a buffe
     removing lactic acid as those of competitors.
   - This means that in the final 200 m she will suffer more from pain and fatigue
   - Her competitors may have a greater ability to buffer lactic acid build-up, allo
     for longer.
   - This helps them to be able to sprint the final 200 m of the race without the a
     with lactic acid.

Section C:

1. The energy continuum:
   - 0 to 10 seconds high intensity = ATP-PC system
   - 2–3 minutes high intensity = anaerobic glycolytic system
   - 3 minutes onwards = aerobic system
   - To run a marathon the body would use the aerobic system, which has three
   - The first stage is anaerobic: glycolysis. This is where glucose is broken down
     to generate two molecules of ATP for energy.
   - The second stage of the aerobic system is where pyruvic acid is oxidised to g
     Krebs cycle, hydrogen is removed here, and this cycle generates two molecu
   - The hydrogen that was removed in the Krebs cycle enters the electron trans
     into electrons and ions; this generates 34 ATP for energy.
   - End of the race would use anaerobic glycolytic and ATP-PC system again as there w
     opponents and get a decent time.
   - Aerobic system (primary energy system)
     - Aerobic glycolysis:
       - The breakdown of glucose to pyruvic acid by the enzyme phospho
       - Produces two ATP molecules
       - When oxygen is present, the pyruvate is converted to acetyl coen
         (when oxygen is not present, pyruvic acid is converted to lactic ac
     - Krebs cycle:
       - Acetyl coenzyme A enters the Krebs cycle
         In the Krebs cycle, acetyl coenzyme A is broken down to produce
         carbon dioxide
       - Hydrogen is taken to the electron transport chain
     - Electron transport chain:
       - Hydrogen ions are transferred over a membrane which causes the
       - Some hydrogen ions are expelled from the body by being oxidised
       - 34 molecules of ATP are produced in the electron transport chain

2. Students to identify characteristics of muscle fibre types and identify how each ch
energy systems and come to a conclusive statement. Answers may include refere

PC stores

- Fast-twitch glycolytic muscle fibres (type IIx) have higher PC stores than slov
- Therefore, fast-twitch glycolytic muscle fibres (type IIx) are suited to produc
energy system, as they have source available for the production of ATP.

Glycogen stores/glycolytic capacity

- Fast oxidative glycolytic (type IIa) and fast-twitch glycolytic muscle fibres (ty
- This means they are suitable for anaerobic glycolytic and aerobic energy sys
source.
- Slow-twitch (type I) muscle fibres have low glycolytic capacity.
- Therefore, they will not have as much glucose available for respiration, but i
energy to be used with the aerobic energy syste[illegible] beta oxidation.

Myosin ATPase / glycolytic enzyme activity

- Slow-twitch (type I) muscle fib[illegible] low levels of myosin ATPase / glycoly
- Whereas high levels [illegible] levels are present in fast oxidative glycoly
muscle fibres [illegible].
- [illegible] witch fibres (IIa and IIx) are suited to producing energy thro
[illegible], as they have a greater source of myosin ATPase / glycolytic enzyme

Mito[illegible]ndrial density

- Mitochondrial density is highest in slow-twitch (type I) muscle fibres and lov
fibres (type IIx).
- Therefore, slow-twitch muscle fibres are suited to the aerobic system.
- This means they can supply high levels of ATP for longer, which is suitable fo

Myoglobin content

- Myoglobin levels are highest in slow-twitch (type I) muscle fibres and lowes
(type IIx).
- Therefore, slow-twitch (type I) muscle fibres are most suited to the aerobic
- This is because they can supply high levels of oxygen to the working muscles
running, cycling and swimming.

Capillary density

- Capillary density is highest in slow-twitch (type I) muscle fibres and fast-twit
- Therefore, slow-twitch (type I) muscle fibres are most suited to the aerobic
- This is because they can supply high levels of oxygen to the working muscles
running, cycling and swimming.

Conclusion to reveal:

- Slow-twitch (type I) muscle fibres are most suitable for producing energy thr
- Fast-twitch fibres (IIa and IIx) have characteristics suitable for producing ene
systems and the anaerobic energy system.

Exam-style Question:
A Level Paper 1:

1. D (ATP = ADP + P + Energy) (AO1)

Topic 1: Energy Systems

8: Factors Affecting VO_2 max and Specialist Trainin

Section A:

1. Altitude training is training at a certain height above sea level (2,400 m or higher) training helps to increase the number of red blood cells in the body, making the b oxygen to the working muscle cells.

2.
   - Acclimatisation is gradually adjusting to living at altitude by living and trainir
   - Ascending too fast to a high altitude can cause altitude sickness.
   - Acclimatisation can be used before a competition at altitude, to ensure an a (at altitude) that they would normally do at sea level.

3. Students to insert missing information.
   i. Genetics
   ii. Training
   iii. [illegible]ing an unhealthy diet
   iv. [illegible]
   v. [illegible]der (men generally have naturally higher VO_2 max than women)
   Body composition (as body fat increases, VO_2 max decreases)
   Physiological factors

4. High intensity interval training (HIIT) is training both the anaerobic and aerobic en train at very high intensities (anaerobic exercise), followed by periods of low- or r periods of time (aerobic energy system).

Section B:

1. Athletes that generally work aerobically, e.g. long-distance runners, road cyclists hockey)

2. Accept other suitable sporting examples.

Method	Description	Sporti
Indirect calorimetry	Indirect calorimetry measures the expired carbon dioxide of the body during rest or exercise and calculates how much oxygen the body is consuming.	e.g. enduran cyclists) as th events requi
Lactate sampling	A blood sample is taken from the athlete and an analysis device measures how much lactate is in the blood. This allows the athlete to know what intensity they are working at and how fit they are, as fitter athletes will have bet[illegible] buffering.	e.g. enduran cyclists, swir their lactate e.g. games a etc.) – as the short period

Method	Description	Sporti
VO_2 max test	One from any of the following methods that are either used to predict or measure VO_2 max. VO_2 max tests calculate or predict the maximum volume of oxygen a person can inhale and utilise during exercise. Direct gas analysis – an athlete runs or cycles (gradually increasing in intensity) until exhaustion. A gas mask and computer collect the gases expired by the athlete during exercise and can calculate how much oxygen the athlete is utilising during exercise. Multistage fitness tests (bleep test) – athletes run a set distance between 'bleeps' until exhaustion, or until they can no longer run in time with the bleeps. The level that the athlete reaches in the test is used to predict VO_2 max. Cooper 12-minute run – athletes run as far as they can in 12 minutes. The distance covered is used, alongside normative data tables, to predict VO_2 max.	e.g. enduran runners, cro cyclists, long require high periods, so it amount of o every minut
Respiratory exchange ratio (RER)	Respiratory exchange ratio (RER) is the ratio of the volume of carbon dioxide expired by the body to the volume of oxygen inhaled by the body, per minute. It can be used to identify the fuel source for exercise of differing intensities.	e.g. any athl energy sourc working at p distance run

3. **Explanation**
   - Games players, such as footballers, require a mixture of anaerobic and aero
   - For example, a striker will work anaerobically for the majority of a match, sl into position. Occasionally, though, the player will need to rapidly run to cat into a run or jump, using anaerobic energy.
   - HIIT allows a footballer to improve both their anaerobic and aerobic perfor represent environments they'd face during a match.

   Considerations
   - The length of a work interval
   - The length of a recovery interval
   - Intensity of the work interval
   - The total number of work and recovery intervals

4. **1. Preloading (eccentric phase)**
   - A muscle is lengthened as it undergoes e cen tri contraction, e.g. the quadr
   - The eccentric contraction shou in fo as short a time as possible.

   2. Amortisation
   - The time be s ti previous eccentric contraction and the subsequent cc
   - y h been stored in the muscles from the eccentric contraction.
   - ortisation phase should be as short as possible to transfer as much e contraction (muscle contraction phase).

   3. Muscle contraction
   - A concentric contraction occurs.
   - The stored energy from the previous eccentric phase is used to maximise pc muscle contraction.

   Sports that would benefit:
   - Any sport in which players need to generate high amounts of anaerobic forc players and high jumpers.

5. **Components of fitness**
   - Power
   - Balance
   - Strength
   - Flexibility
   - Coordination
   - Accept other suitable answers

   Training methods
   - Ladder runs
   - Zigzag runs (e.g. around cones)
   - Plyometric drills
   - Accept other suitable answers

   Sporting examples to include any sports that require anaerobic energy producti
   - Games sports (e.g. rugby, football, hockey, lacrosse)
   - Sprint
   - Hurdle
   - Accept other suitable examples

Section C:

1. **Positives**
   - Can help an athlete get used to competing at altitude during international c
   - Helps to makes athletes' cardiorespiratory systems more efficient
   - Improves cardiorespiratory endurance at sea level following altitude trainin

   Negatives
   - Can cause nausea or altitude sickness – athletes will have to stop training ar
   - Improvements in performance as a result of altitude training are not perma
   - Training intensity will be lower at altitude than at sea level

Exam-style Question:

A Level Paper 1:

1. Any two marks from (AO2):
   - Increased cardiac output, as a result of increased heart rate range and incre oxygenated blood to be pumped to working muscles, so more is taken up by
   - Capilliarisation around the muscles, results in an increased surface area for the muscles.

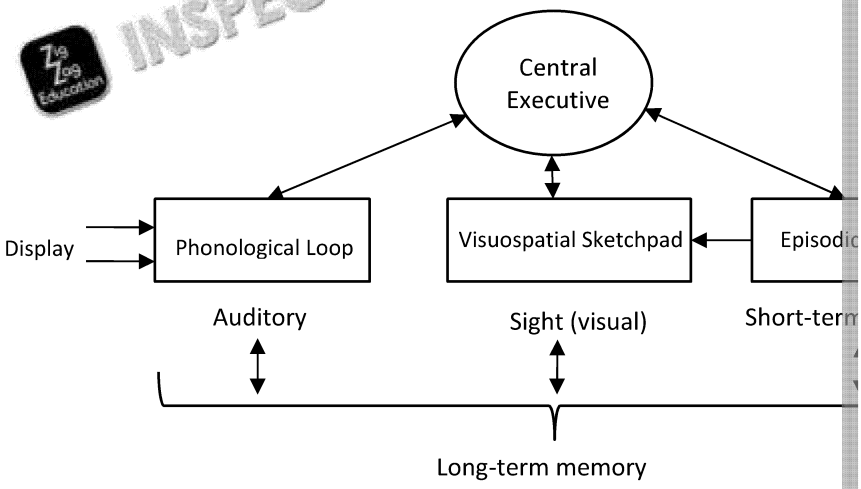
Topic 2: Memory Models and Informati

Section A:

1. (a) (i) Input
   (ii) Decision-making
   (iii) Output
   (iv) Feedback

   (b) (i) Input – a stage at which information is received from the environment of the body
   (ii) Decision-making – the performer makes decisions on what movements collected from the senses. Selective attention is used to filter out irrele informed decision. The performer may rely on memory of past experie
   (iii) Output – the physical response of the body to the stimuli (e.g. moving
   (iv) Feedback – information regarding the success of the skill is fed back to the same, or similar, situation occur.

2.



3. (a)
   - Reaction time – the amount of time between the initiation of the stimu
   - Movement time - the amount of time between the start and end of the
   - Response time – the amount of time between the initiation of the stim response/task.

   (b) Response time = Reaction time + Movement time

4.
   - Simple reaction time is the time used to respond to a single stimulus
   - Choice reaction time is the time taken to respond to stimuli (i.e. more than

5. (a) Anticipation is the process of prejudging a situation and predicting what will

   (b)
   - Name: Temporal anticipation
     Definition: predicting and judging when something is going to happen
   - Name: Spatial anticipation
     Definition: predicting and judging what is going to happen and when

6. (a) A schema is where the principles of an existing motor programme are used completion of a new skill or task.

   (b) A recognition schema is a process that takes place prior to movement and is concer and response to the environment.
   - Initial conditions – information that a person receives from their imme must be recognised (e.g. where they are on the pitch)
   - Response specifications – the options available to the athlete on what

   Recognition schema is a process that takes place after movement has occur movement felt and how successful the movement was.
   - Sensory consequences – how the movement felt when it was being con information from the sensory system, i.e. feedback gained from knowle
   - Response outcomes – how successful the movement was, as assessed compared with any skill that takes place in the future. Unsuccessful ski schema for next time.

7. Any three from:
   - Use varied and relevant practice during training, to improve the selective at
   - Train the athlete to understand how to ignore the irrelevant stimuli and onl important cues.
   - During training, make the important cues more obvious, to allow the athlete easier.
   - Develop the athlete's natural understanding of why certain cues are import
   - Develop the athlete's understanding of, and use of, mental rehearsal, so the

Section B:

1. Accept suitable sporting examples.
   (i) Sight/visual – the athlete can see the environment in front of them and can they have seen,
   e.g. a tennis player observing the moment a serv[illegible] ruck by the racket
   (ii) Auditory/sound – the athlete can hear e[illegible] occurring around them, which performance,
   e.g. a squash player hea[illegible] moment the ball lands in front of them follo noise around the
   (iii) Balance / kinaesthesis / perception of movement (proprioception) – athlete [illegible]ceived through kinaesthesis,
   e.g. a football player striking a ball maintains their balance through knowled ball
   (iv) Touch/feel – an athlete can feel whether they are in correct positions/grips, e.g. a golfer adjusting their grip on the club prior to the beginning of their ba

2.
   - The sensory memory (STSS) receives information from all the senses in the m
   - Selective attention allows the performer to not be overwhelmed by informa
   - The brain will 'filter' or selectively attend to the information it deems to be that skill (e.g. the position of the ball in the sky, the rate at which it is falling their hands) while ignoring other sensory information (e.g. the environment
   - Selective attention allows only the important information relating to catchi memory stores and allows the information to pass from the STSS to the sho

3. Accept suitable sporting examples using the tennis player example.

Central executive

- The central executive is the key decision-maker in the working memory mod three other components.
- The central executive is concerned with attentional control, through the use
- The central executive has some limited capacity for information.
- e.g. the tennis player receiving a serve would be collecting data from all of t The central executive would serve to cancel out the less important cues, suc

Phonological loop

- Separated into the phonological store (inner ear) and the articulatory contro
- The phonological store stores information received verbally for up to two se
- The articulatory control process rehearses the information that is stored in t repetition.
- e.g. the tennis player hears the moment the o[illegible]ponent grunts as they strike translated by the phonological loop com[illegible]ponent

Visuospatial sketchpad

- Stores visual infor[illegible]ion, which in turn affects spatial awareness.
- Spatial awa[illegible]ness allows us to understand the position of the body in relati
- The visuo-spatial sketchpad has limited capacity, but does retrieve informati[illegible]ry, enabling a relevant previous image to be displayed.
- e.g. the tennis player watches the position and flight of the ball after the ser move their body into the correct position to return the ball, using spatial aw

Episodic buffer

- Acts as a link between the short-term memory and long-term memory.
- It retrieves information from the long-term memory and adds it to the short required.
- The episodic buffer provides timing and an order to information, to enhance
- e.g. the tennis player receiving a serve observes the movement of the oppos striking the ball. Knowledge from the long-term memory allows them to pre faced with, and they can respond appropriately.

4. Accept suitable sporting examples; each component must be described using a sp

Display/environment

- Concerns the information from the environment required by the athlete to p ball position, opponent's position, etc.
- e.g. a rugby full back scanning the entire pitch to assess their options when

Sensory organs / receptor systems

- The information from the display is then taken in by the sensory organs (visi
- e.g. the rugby player may see (vision) or hear (sound) an attacking player ru

Perceptual mechanism

- The perceptual mechanism processes the information received by the senso information is retained and irrelevant information is ignored, using selective
- e.g. the rugby player focuses on the run of the opposite player, filtering out

Translatory mechanism

- The translatory mechanism involves the decision-making processes. It is he to previous experience, enabling a decision to be made.
- e.g. the rugby player decides to close down the gap between them and the op

Effector mechanism

- Once the decision has been made, the effector mechanism, via motor neuro to be passed from the brain to the muscles.
- e.g. the rugby player's muscles are stimulated to begin movement to allow t opposite player.

Muscular system and output data

- The muscular system can then physically respond in the manner suggested b
- e.g. the rugby player runs towards the opposition player, and initiates the m

Feedback data

- Feedback data then considers the information about the performance to alt the skill in the future.
- e.g. the rugby player's feedback includes the fact that they could have made technique in order to put the player to ground earlier and reduce the territo

5. Answers to be applied to rugby passing.
   - **Recall schema:** initiation of movement before the action takes place
     - **Initial conditions** – The rugby player can see the sporting environment environment from an existing motor programme, such as where they a hands are positioned on the ball.
     - **Response specifications** – The rugby player now uses this information what they need to do, such as where the defenders are, how far away pass needed to reach the player (pop or spin).
   - **Recognition schema:** this happens during the controlling of the movement
     - Sensory consequences – used during the performance of the skill; the s hand position on the ball for different types of passes and arm power f
     - Response outcome – this involves knowledge of the action and how su then be used to update existing motor programmes and schema, such the pass failed, small adjustments will be made for next time.

Section C:

1. Students should correctly identify the three factors and then draw the Hick's law

Hick's law

- Hick's law suggests that as the number of stimuli presented to an athlete inc stimuli increases. Therefore, the fewer stimuli an athlete has to respond

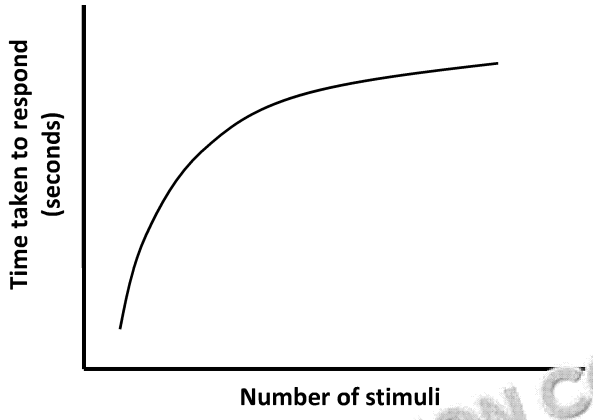
Psychological refractory period (PRP)

- PRP also suggests (similar to Hick's law) that the greater the number of stim the response time. It suggests the reason for this is because as the first stim to, additional stimuli are being presented to the athlete, causing a delayed r

Single channel hypothesis

- The single channel hypothesis states that the reason response time increase that the brain can only process one stimulus at a time. Therefore, if more th athlete, a bottleneck effect occurs and additional stimuli have to wait to be

Hick's law graph



2. Any from the foll[illegible] Accept other suitable answers
   - [illegible]sin[illegible]egularly can help to improve anticipation and reaction to stimuli
   - [illegible]eting drills to improve speed – as response time incorporates movem[illegible] move, the quicker their response
   - Improving selective attention can cut down the irrelevant stimuli which cou[illegible] from being attended to
   - Mental rehearsal can help to focus the athlete's attention to the task at han[illegible] respond to a stimulus
   - Training specific stimulus-response tasks can help an athlete improve their [illegible] how to respond to specific situations
   - Improved fitness to improve reaction time – specific fitness components (e.[illegible] decrease the physical response time to a stimulus

3. **Chaining**
   - Chaining is the process of linking separate pieces of information together. T[illegible] of the movement and linking it to the second, and then linking the third par[illegible] whole skill is performed.
   - e.g. a tennis coach teaching a serve firstly just teaches the toss-up of the ba[illegible] The coach then teaches the correct swing action of the racket. The athletes [illegible] swing together. Eventually the whole serve will be developed.

   Chunking
   - Chunking is the process of separating large pieces of information into small[illegible] helps the brain process the data into understandable and manageable piece[illegible] retrieval. When the information/skill is required again, the subcomponents [illegible] form the whole skill.
   - For example, a rugby player can break down a conversion kick into its separ[illegible] planting foot, the striking foot and the follow-throu[illegible]

Exam-style Question:
A Level Paper 1:

1. Three marks fr[illegible]:
   - [illegible]y [illegible]ractice conditions to create different environments for schema t[illegible]
   - [illegible]nt feedback to make sure athletes are recognising and adapting sche[illegible]
   - Indicate opportunities where schema can be used, such as the transfer of di[illegible]
   - Use of reinforcement to support knowledge of results and ensure athlete re[illegible]
   - Accept any other suitable answer

Topic 3: Injury Prevention and Reha

Section A:

1. (i) Injuries that occur from a sudden stress (impact/trauma) to the body and th
   (ii) Injuries that occur from continuous stress on the body. Also known as Overu

2. (i) Chronic – Achilles tendinitis
   (ii) Acute – dislocation
   (iii) Acute – simple (oblique) fracture
   (iv) Chronic – tennis elbow
   (v) Chronic – stress fracture
   (vi) Acute – compound fracture

3. Any three from the following:
   - Sprain – damage to the li[illegible]nts around a joint caused by overstretching th range of movem[illegible]mpt[illegible]ms of sprains are tenderness, bruising and swel
   - Strain – d[illegible] to the tendons caused by overstretching the muscle fibres. [illegible]ng [illegible]d swelling at the location of the injury.
   - [illegible]res – fractures are cracks or breaks in bone material either due to acu chronic injuries such as bad technique over a long period of time.
   - Dislocations – the misalignment or total removal of a bone from its socket a collision or twisting actions.

4. Any three from the following:
   - Proprioceptive training
   - Strength training
   - Hyperbaric chambers
   - Cryotherapy
   - Hydrotherapy

5. Students to draw an image to represent the following descriptions or describe.

Compression garments	Foam rollers and massage
Clothing that applies pressure to the body, e.g. compression socks and compression shorts.	• Foam rollers – grooved equipment that athletes roll body parts over, to mimic a massage • Massage – rubbing and applying pressure to muscles, using hands, to relieve pain and promote recovery of muscles
Cold therapy	**Ice baths**
The use of ice packs or cooling aids to cool a specific area of the body.	Submerging the [illegible]dy in ice-cold water, e.g. [illegible]pa[illegible].

Section B:

1. **Sport:** [illegible]y su[illegible] [illegible]mples of sports that require powerful movements such as bou[illegible]ov[illegible]ments, e.g. rugby, football, squash, tennis, gymnastics

   Justi[illegible]tion: sprains and strains are caused by overstretching of tendons and mu so are caused by sudden, powerful movements that can cause twisting of a joint muscle and/or its tendons (e.g. hamstring).

2. (i) Scrum cap
   (ii) Mouth guard / gumshield
   (iii) Shoulder pads
   (iv) High ankle support / correct studs
      - The risk of injury is increased if incorrect equipment or clothing is bein wearing the correct type of shoes with correct grip for the activity.

3. **Stage 1:**
   - Light cardiovascular exercise that gradually raises the heart rate and breathi
   - e.g. light jog around a football pitch.
   - This increases the blood flow and, therefore, oxygen levels, to meet the oxy
   - Gradually increasing exercise intensity means there is less of a shock on the the body (i.e. the heart can gradually adapt to the demands).

   Stage 2:
   - Performing static and dynamic stretches to increase the pliability of muscles
   - e.g. a long jumper performing stretches on their legs.
   - This increases the range of motion at joints, increasing athlete flexibility, rec

   Stage 3:
   - Sport-specific drills and movements are complete[illegible]plicating movement e
   - e.g. a rugby player completing passing and tackling drills.
   - This warms up and further stretches the muscles used during exercise.

4. i. Type: Active stretching
   Description: Stretching a muscle by contracting its opposing (agonist) muscl

   ii. Passive stretching
   Description: Use of external assistance (person or object) to stretch the athl working on their own.

   iii. Type: Static stretching
   Description: A stretch that is held is the same position for a prolonged perio concerned with speed of a movement but, instead, the maximum range of m active and static dynamic flexibility.

   iv. Type: Ballistic stretching
   Description: Using bouncing movements to increase the range of movement stretches muscles beyond their range of movement at speed.

Section C:

1. Answers given below; accept other suitable answers.

   Advantages
   - Identifies potential health issues a person may already have
   - Identifies potential risks of a person participating in exercise (e.g. health con as cardiac arrest)
   - Can be used to assess the suitability of people to certain sports/exercise
   - Flaws in technique or levels of fitness can be treated early to prevent injury

   Disadvantages
   - Not always reliable or accurate
   - Can be expensive and time-consuming
   - Athletes may not want to hear about pre-existing health problems that may

2. a) Bracing
   - Support used for joints that may be weak or recovering from injury; for
   - Bracing also prevents joints from moving in directions or movements th e.g. hyperextension)

   b)
   - Taping is used either to prevent injury or to help protect joints and mu support at the ankle.
   - Kinesiology tape (shown in the image) aims to provide support and prot movement, allowing athletes to still compete at the highest levels

3. Answers given below, Accept other suitable sporting examples.

Recovery method	How it aids recovery
Compression garments	By applying pressure to the blood vessels, compression ga aim to improve blood circulation by increasing blood press the blood vessels. This helps to circulate blood, delivering oxygen, removing lactate and reducing muscle inflammati caused by exercise.
Foam rollers and massage	• Foam rollers and massages aid recovery by reducing p from inflamed muscles • Massages can also break down scarred tissue surroun muscles • Promotes an increase in blood flow around muscles through vasodilation, helping to remove lactic acid an flow of oxygen and nutrients to reach the muscles, help speed up recovery
Cold therapy	• Cooling areas of injury helps to reduce the inflammat response (swelling) of injured muscles by causing vasoconstriction of the blood vessels, reducing the vo of blood reaching the injured area • Reducing swelling also allows an athlete to maintain t majority of movement at the site of injury
Ice baths	• Ice baths help to remove waste products from the lim (e.g the legs) through vasoconstriction of the blood ve As blood leaves the limbs, it carries the waste produc with it to be expelled from the body. • The removed blood is replaced with fresh, oxygenate blood that aids recovery
Cryotherapy	See ice baths and cold therapy
Hyperbaric chambers	• The additional oxygen in the room is easily consumed the body. This increases the amount of oxygen in the • Oxygen can more easily be diffused to injured areas o body, reducing swelling and aiding the removal of wa products • Helps to replenish oxygen levels following exercise (o debt)

4. **Sleep**
   - Provides the body with physical and mental recovery time / break
   - During deep sleep, less blood is sent to the brain and it is instead transporte recovery
   - Adequate sleep allows athletes to reduce stress l and gives them a psyc
   - Adult athletes should have approximately eight hours of sleep per night to p be repaired

   Nutrition
   - Depending on the type, intensity and length of exercise completed, differen (glycogen stores)
   - During exercise, athletes will consume more food than usual to make the windows of opportunity, whereby the body is readily available to consume, normal
   - Athletes will consume large amounts of protein following exercise to promo require protein to repair microtears in muscle fibres

Exam-style Question:
A Level Paper 2:

1. Maximum 8 marks. 2 marks = AO1, 3 marks = AO2, 3 marks = AO3.

Refer to the below guidance table to aid marking.

Guidance table		
Level	**Marks awarded**	**Description/guidan**
4	7–8	Comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demonstr their impact. Appropriate terminology reliably used throughout. Proven rational structure provided, with focused and cl
3	5–6	Usually uses comprehensive and precise knowledge. Applic[illegible] range of knowledge often displayed. Analysis and/or evaluation is often articulated well, der their impact. Appropriate terminology often used throughout. Rational structure provided, with focused and clear ans
2	3–4	Sometimes uses comprehensive and precise knowledge Application and range of knowledge is sometimes displ Analysis and/or evaluation is sometimes articulated we and their impact. Appropriate terminology sometimes used throughout. Rational structure provided, with focused and clear ans
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge displayed is restric Analysis and/or evaluation is often not articulated well, appropriate terminology occasionally used throughout. Rational structure not provided, with answer not focus
0	0	No answer or suitable information given

Indicative content can include, but is not limited to:

AO1 – Knowledge of hyperbaric chambers and cryotherapy and their use:

- Cryotherapy involves the use of cold temperatures, such as RICE method, ic
  a cryogenic chamber at a temperature of -100 ˚C
  - (Rehabilitation) Helps reduce pain and swelling (odema)
  - (Recovery) Flushes out lactic acid
- Hyperbaric chambers are pressurised chambers with 100% oxygen
  - (Rehabilitation) reduces swelling
  - (Recovery) increases white blood cell activity and increases blood supp

AO2 – Application to rugby

- Rugby is a contact sport, where acute injuries such as strains (to muscles an
  are likely to occur.
- Rugby also uses anaerobic energy systems resulting in an increased accumulati
- Cryotherapy / hyperbaric chambers can support rugby players to increase bl
  and/or competitions, increasing oxygen to the muscles for recovery.
- Cryotherapy can help flush out lactic acid after a game, increasing recovery
- Cryotherapy / hyperbaric chambers reduce swelling and pain of any injured

AO3 – Analysis/evaluation of how this supports recovery and rehabilitation fro

- Ice therapy – reduces swelling and pain through vasoconstriction, allowing
  reducing the risk of injury due to tight muscles during next training session /
- Ice baths / cryotherapy – help to remove waste products from the limbs thr
  vessels. As blood leaves the limbs, it carries the waste products with it to be
  replaced by fresh, oxygenated blood that allows a quicker recovery.
- Hyperbaric chambers – the additional oxygen in the chamber is consumed b
  amount of oxygen in the body. This allows oxygen to be more easily diffused
  swelling and aiding the removal of waste products, such as lactic acid – spee
- Removal of lactic acid and reduction in swelling can decrease soreness of th
  training sooner.

Topic 4: Biomechanical Mover

A: Linear Motion and Angular Motion

Section A:

1. Linear motion is the movement of an object's centre of mass in a line (curved or s
have all parts moving is the same direction, speed and distance.

2. Angular motion is the motion of an object about a fixed axis in a rotational mann

3. i) Internal muscular force
ii) Eccentric force

4.

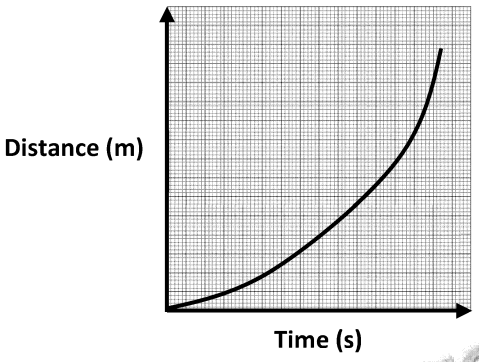
Quantity	Definition	Calculation
Mass	The amount of matter an object or body is made up of	Mass = weight / acceleration due to gravity
Weight	The gravitational force exerted on an object, due to its mass	Weight = mass × acceleration due to gravity
Distance	The straight-line distance between a start point and an end point	Distance = speed × time
Displacement	The total change is an object's centre of mass between a start point and an end point	Displacement = velocity × time
Speed	The rate at which an object moves a specified distance	Speed = distance / time
Velocity	The rate at which an object undergoes displacement	Velocity = displacement / time
Acceleration/ deceleration	Acceleration is the positive change in velocity of an object Deceleration is the negative change in velocity of an object	Acceleration or deceleration = change is velocity / time
Momentum	The amount of movement an object or body has, as a result of its mass and velocity	Momentum = mass × velocity

5.

Quantity	Definition	Calculati
Angular displacement	The change in position or angle of a point on a rotating object	Angular displacer angle – initia
Angular acceleration	The rate at which angular velocity of an object changes	Angular acceleratio angular veloci
Moment of inertia	The resistance of an object to change its current state of rotational motion	moment of inertia = distance from the a
Angular velocity	The rate of angular displacement of an object	angular velocity displacement (ra taken (sec
Angular momentum	The amount of angular motion of an object	angular momentum inertia × angula

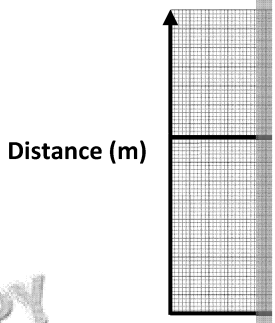
Section B:

1. i) Students should draw any line that resembles the one shown below.

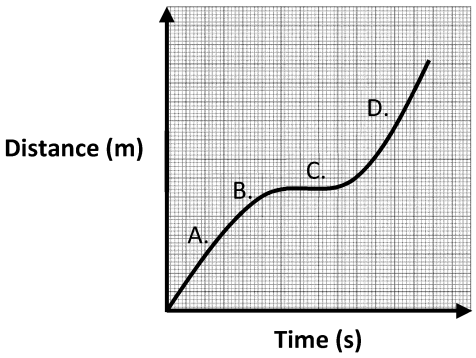


Gradient increasing to illustrate increase in distance covered as time increases – acceleration.

ii. Students should
shown below.



iii) Students should draw any line that resembles the one shown below.



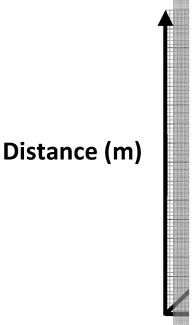
A. Gradient increases, showing acceleration to make tackle

B. Slight deceleration as they approach player

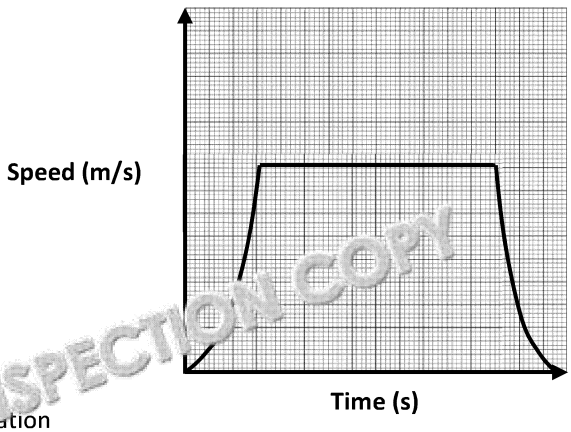
C. The tackle happens so a moment of being stationary

D. The athlete then accelerates again back into position

ii) Students should
shown below.



2. Students should draw a graph, correctly labelling the graph axes with correc
should look similar to that shown below:



3. (i) Acceleration
(b) Deceleration
(c) Acceleration in a different direction
(d) Deceleration in a different direction

(ii) Accept suitable examples where changing direction is a common action of th
e.g. football sidesteps / rugby sidesteps / cycling or Formula One cars turnin

4. a) Air resistance – a frictional force that opposes movement in the opposite di
b) Frictional force – a force that acts between two surfaces that are working ag
c) Gravity/weight – gravity pulls an object towards the ground. The size of grav
mass (i.e. weight) of the object

5. Accept other suitable sporting examples.
   - Newton's first law: a body or object in rotation will continue to rotate with c external (unbalanced) torque force acts upon it
   - Sporting example: a tennis ball with topspin will continue to rotate with con the ground on the other side of the net
   - Newton's second law: the rate of change of angular momentum is proportic (unbalanced) torque, acting upon it
   - Sporting example: the more torque a golfer applies to the bottom edge of a backspin the ball will have when it lands
   - Newton's third law: for every external (unbalanced) torque applied to a bod torque will be produced by the body or object
   - Sporting example: when a snooker player hits the cue ball to create backspi opposite force back onto the cue

6. (i) Longitudinal axis
   Sporting example: spinning during h[illegible]ner throw wind-up
   (ii) Sagittal axis
   Sporting example: [illegible] wheel in gymnastics
   (iii) Transverse [illegible]
   [illegible]ing example: a diver performing a tucked somersault

7. - [illegible] of the body – the larger the mass of the rotating object, the greater th
   - Distribution of mass – the greater the distance the mass of an object is distr larger the moment of inertia of the object.

Section C:

1. - Distance travelled between 'B' and 'C' = 11 m/s × 5 seconds = **55 m**
   - Between points 'A' and 'B', the athlete is accelerating at their maximum run
   - Sporting event = 200 m sprint

2. - Angular momentum = moment of inertia × angular velocity
   - Inverse relationship between moment of inertia and angular velocity:
     - As moment of inertia increases, angular velocity decreases
     - Therefore, angular velocity = angular momentum / moment of inertia
   - Due to inverse relationship:
     - Angular momentum will remain constant throughout flight
     - This relates to Newton's first law of motion
     - This is known as the 'conservation of angular momentum'

3. - Impulse is shown as the area under a force–time graph time
   - For a 100 m sprinter, impulse is used to demonstrate forwards (horizontal) r
   - (Figure A) the positive impulse is larger than the negative impulse, meaning forwards direction, e.g. pushing off from the starting blocks
   - (Figure B) the negative impulse is greater than the positive impulse, meanin e.g. after crossing the finish line, when the sprinter slows down to stop
   - When the sprinter decelerates (figure B), they are still travelling in the same reduced rate

4. - Initial momentum is created by the diver by applying an eccentric force to th from the board.
   - This momentum creates moment of inertia [illegible] the rotation begins about the l
   - At the beginning of the rotation, [illegible] body mass (arms) is further away fro while moment of inertia is high, the angular velocity is low.
   - To increase angular velocity, moment of interim must be lowered by tucking t

Exam-st[illegible]estion:

A Level P[illegible]2:

1. a. Maximum three marks. 1 mark = AO1, 2 marks = AO2.

	Force	
A	B	
Frictional force (1)	Gravity/weight (1)	

1. b. Maximum 3 marks. 1 mark = AO2, 2 marks = AO3
   - To increase the speed/momentum of the bike, the cyclist must create more
   - Newton's second law of motion states that change in momentum is proport acting upon it (AO3)
   - This is achieved by pedalling at a faster rate, which increases the force (torq

Section A:

1.
- **Angle of release**
- **Speed of release**
- **Height of release**

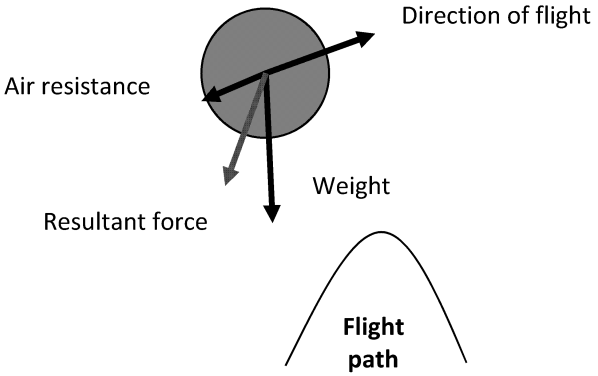
2.
- **Velocity** – the greater an object's velocity, the greater the air resistance / dr
- **Mass** – the greater the mass of an object, the less the effect of air resistance
- **Frontal cross-sectional area** – the smaller the frontal cross-sectional area of resistance / drag has on the object
- **Streamlining and shape** – a streamlined and smooth object will have less air rough and un-streamlined object
- **Surface characteristics** – surfaces that are smooth in texture have lower air rougher textures

3.
- A parabolic flight path is the symmetrical flight path of an object in flight. Th projectile object is greater than the air resistance acting on it.
- A non-parabolic flight path is an asymmetrical flight path of an object in fligh object is smaller than the air resistance acting on it.

Section B:

1. Diagrams and illustrations to be similar to:

Shot:



Shuttlec

Air resis

Res

2.
- The athlete would angle the discus to travel through the air at approximatel as it travels, to increase lift.
- The angle of the discus means that it has to travel a greater distance over t velocity of airflow. Pressure is reduced at higher velocities and, therefore, th the discus.
- The differential pressure gradient creates lift as the object is forced to move to ... using flight time.

3. **Track cycling**
- How: A downward lift force is created when the cyclist leans forward over th the cyclist travels at a lower velocity and at a higher pressure, pushing the ty
- Importance: this is so a greater frictional force is applied, giving the athlete

Speed skiers:
- How: A downward lift force is created when the skier crouches low towards skier travels at a lower velocity and at a higher pressure, pushing the skier's
- Importance: this is to reduce drag, and also reduce friction from the snow to

Section C:

1.
- Creates extra lift force / drag (if reversed)
- Increases flight time of an object
- Helps to increase horizontal distance covered by a projectile

2. **Height of release:**
- The greater the height a projectile is thrown from, the greater the horizontal di
- This is due to the extended time it will take the object to fall to the ground (
- The shot-putter would attempt to release the shot at the greatest height po

Speed of release:
- The greater the release speed of an object, the further the object will travel
- Greater release speeds extend the time it takes for gravitational pull to decr stopped moving).
- The shot-putter would throw the shot as fast as possible at the moment of r

Angle of release:
- The optimal release angle for maximum horizontal displacement is 45°.
- The shot-putter would attempt to throw the shot at a 45° angle.

Exam-style Question:

A Level Paper 2:

1. Maximum 15 marks. AO1 = 4 marks, AO2 = 5 marks, AO3 = 6 marks.

Refer to the below guidance table to aid marking.

Guidance Table		
Level	**Marks Awarded**	**Description / Guid**
5	13–15	Comprehensive and precise knowledge. Clear application and range of knowledge displayed Analysis and/or evaluation is articulated well, demo their impact. Appropriate terminology reliably used throughout. Proven rational structure provided, with focused an
4	10–12	Usually uses comprehensive and precise knowledge Application and range of knowledge often displayed Analysis and/or evaluation is often articulated well, and their impact. Appropriate terminology often used throughout. Rational structure provided, with focused and clear
3	7–9	Generally uses comprehensive and precise knowled Application and range of knowledge are occasionall Analysis and/or evaluation is sometimes attempted, and their impact, but may lack coherence. Appropriate terminology used throughout, but som Structure provided with focused and clear answer,
2	4–6	Sometimes uses comprehensive and precise knowle Application and range of knowledge are sometimes Analysis and/or evaluation is sometimes articulated factors and their impact. Appropriate terminology sometimes used throughc Rational structure provided, with focused and clear
1	1–3	Comprehensive and precise knowledge is restricted Application and range of knowledge displayed is res Analysis and/or evaluation is often not articulated w appropriate terminology occasionally used throughc Rational structure not provided, with answer not fo
0	0	No relevant content given.

Indicative content can include, but is not limited to:

AO1 – Knowledge:

- (Bernoulli's principle) The shape of the object (car or bicycle) would be desig
- (Bernoulli's principle) Bernoulli's principle is reversed to create downwards
- (Bernoulli's principle) Pressure changes between the upper (high pressure) a object causes drag, as the object is pushed down into the ground.
- (Additional factors) Velocity – the greater an object's velocity, the greater th
- (Additional factors) Mass – the greater the mass of an object, the less the effe
- (Additional factors) Frontal cross-sectional area – the smaller the frontal cro smaller the effect air resistance / drag has on the object.
- (Additional factors) Streamlining and shape – a streamlined and smooth obj acting upon it than a rough and un-streamlined object.
- (Additional factors) Surface characteristics – surfaces that are smooth in tex acting on them than those with rougher texture.

AO2 – Application

- Formula One cars have large spoilers which are designed to create a pressure gr has to travel a, [illegible], increasing the velocity of the air. This creates an are
- An area of high pressure is present above the spoiler (due to the shorter distan ng) when air moves from this area of high pressure to the area of low press
- wings of the Formula One car force air underneath the car, increasing creating an area of pressure beneath the car which is lower than the pressu
- This increases the drag and grip the car has on the track.
- To reverse Bernoulli's principle and create downwards lift forces, equipmen travel a greater distance below the object.

AO3 – Analysis/Evaluation

e.g. Formula One cars / racing cars are required to travel as fast as possible. This resistance must be minimised. However, when travelling at high speeds, especiall the vehicle is able to grip to the track, allowing them to safely travel round corne principle. Features of the car, such as the spoiler, are designed to reverse Bernou lift), to push the car down into the track, increasing traction. Spoilers are designe between the upper and lower surface of the spoiler. An area of high pressure is c low pressure beneath the spoiler. The air wants to travel from the area of high pr this means that the air above the spoiler pushes downwards (towards the area of into the track, increasing traction.

Designers of racing cars must also consider the additional factors that influence a attempt to reduce these. Formula One cars are made of lightweight but strong m mass of an object, the greater the effect of air resistance on it. Formula One cars amount of air striking the car (at the front of the car) as it moves; by streamlining sectional area of the car, this is achieved, shown by the shape of the nose of the designed using smooth materials (plastics and metals). The smooth texture of the resistance has on the car.

Topic 5: Psychological Factors that Influenc

A: Achievement Motivation Theory

Section A:

1. Achievement motivation refers to the approachability or avoidance that an athle

2.
   - Need-to-achieve (NACH) personality types are suggested to have the desire enthusiastic about having another opportunity and each opportunity is a te
   - Need-to-avoid-failure (NAF) personality types are suggested to have the atti possible in order to prevent the possibility of failure.

3.
   - A need-to-achieve personality is advantageous in sport because it allows a p opportunities.
   - Being open to more opportunities allows the performer to learn from mista and limitations and receive feedback.
   - Need-to-achieve personalities are argued to be more successful because the task at hand, in contrast to need-to-avoid-failure personalities, who tend to by limiting their experiences and opportunities to improve.

Section B:

1. **Need to achieve**
   - They welcome competition; therefore, being in the third quarter and only tw plenty of time available to match New Zealand and even get ahead by the fo
   - They take risks – a player may not risk interception by the opposing team wh instead, may choose to throw long-distance passes to teammates. This, how of the ball going out or even being intercepted.
   - They are confident – the player has a strong belief in their ability and their t and will patiently wait for it to unfold.
   - They are task-persistent – the player will not give up on the task even after f good shots at the net but unfortunately none have gone in yet, but they kee
   - They attribute success internally – e.g. if the team were able to score, the at the practice they put in during the last training session.
   - They welcome feedback and evaluation – e.g. at the end of the third quarter they should incorporate more bounce passes to get around the player.

   Need to avoid failure
   - They give up easily – therefore, knowing they're down and already in the se motivation and drive to continue the competition.
   - They do not like feedback – e.g. at the end of the third quarter the coach tel incorporate more bounce passes to get around the player, but a need-to-av mean they have not been passing well and will, therefore, think their perfor
   - They take the easy options – e.g. it's easier to pass the ball quickly to anothe potentially miss.

2.
   - They give up easily – she would know that her body shape has changed, she lacking recent experience of a competition. Not to mention she is exhauste then going to training. Therefore she will give up easily during the match, p require sprinting towards the net for. This increases the risk of losing points
   - They do not like feedback – her coach is sitting in the audience and tries to g to her and instead carries on the way she is playing, thereby not ada being lost.
   - They take the easy options – Serena Williams has a very powerful and accur for her would be to collect as many aces as possible, without having to mov

3. Answer to include reference to sporting examples.
    - The situation refers to the probability of success obtained from the scenario success, such as pride, satisfaction and achievement.
    - Tasks, situations and scenarios that are deemed as easy to the performer ar to-avoid-failure (NAF) personalities because, after assessing the situation, it
    - However, this type of scenario will offer little incentive value and pride, e.g. floor routine during competition, but opt for the easier lower-level routine a
    - On the other hand, need-to-achieve (NACH) personalities are open to difficu complete the task, irrespective of whether they will complete the task well, challenging floor routine.
    - Moreover, if success is obtained from the situation, high levels of pride, sati higher score from the floor routine.

Section C:

1. Achievement goal theory for 100 m hur
    - Dependent on the type of goal set and how the performer measures their s

    Advantages
    - Task related goals refer to the athlete comparing their performance with th
    - be beneficial as the player will be able to identify their strengths and lim me or learn what to do differently next time. For example, for 100 m, their performance and learn that they had a really good start out of the bloc approx. 50 m and then they were able to maintain their top speed until they

    Disadvantages
    - Goals could be set purely on win or lose, e.g. whether they come first in the
    - This is a disadvantage as then the player will not investigate their own perfo
    - Secondly, if they did not win the race, this can be demotivating and demora on their attitude and training methods, e.g. they may just think that they we

Exam-style Question:
A Level Paper 2:
Any three from the following (AO3):

- Use positive reinforcement, praise and rewards when they display approach beha enhance repeated behaviours.
- Attribute success internally – attributing success to the player, so they recognise tactic and are more likely to implement it in the same way in the future.
- Provide situations and drills to allow success to be achieved so they learn what it
- Improve confidence of the players through positive feedback.
- Provide suitable SMART goals that focus on performance and can be achieved by motivation.
- Accept any other suitable answer.

Topic 5: Psychological Factors that Influenc

8: Attribution, Confidence and Self-efficac

Section A:

1. Attribution is how a person recognises particular factors as being the reason for f

2.

	Internally perceived locus
Attributions of no control (unstable)	Effort
Attributions of control (stable)	Ability

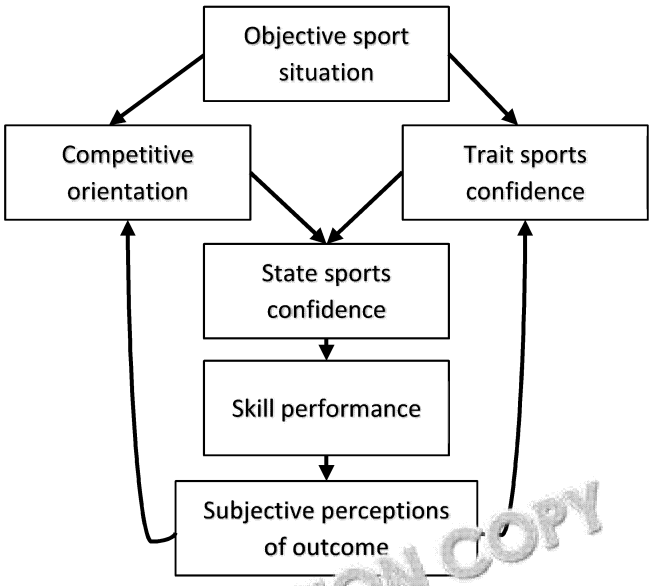
3.
- Weiner's model of attribution provides explanati[illegible] f attribution in sport
- It focuses on how an individual attribute[illegible] ure if failure was unexpec
- Contains two dimensions: stabi[illegible]us of control
- Stability is split into: st[illegible] stable
- Locus of cont[illegible]: internal and external

4. Lea[illegible]plessness is the inevitable feeling that failure will occur, no matter wh

5.
- **Specific** – the belief that an individual cannot perform a specific skill for succ
- **Global** – the belief that a previous bad experience means an individual cann

6. (i) Self-confidence is the belief of an individual in their ability to perform succe
(ii) Self-efficacy is the belief of an individual in their ability to be successful in ce
(iii) Self-esteem is how a person values themselves, based on judgements of thei

7.



- Trait sports confidence (SC tr[illegible]) – the enduring state of the performer, their glob
- State sports c[illegible]e (SC state) – fluctuating sports confidence that depe[illegible]
rm[illegible]ed with.
- [illegible]e (skilled performance) is influenced by SC trait, competitive orientat
- [illegible]petitive orientation – willingness of the athlete to achieve a goal to exh
- Objective sport situation – type of skill being performed and environment th
- Subjective perceptions of outcome – how successfully the athlete perceives

8. i. Performance accomplishments – the levels of success an athlete has previou
will influence their confidence when performing a similar skill.
ii. Vicarious experience – the athlete viewing another performer completing a
iii. Verbal persuasion – the use of verbal feedback to encourage the athlete and
iv. Emotional arousal – how the athlete interprets their physiological symptom

Section B:

1. Chance/luck and task difficulty

2. Ability – the winning rugby team was more talented than their opponents

3.
   - Self-serving bias is the act of purposefully attributing success to internal and
     and unstable factors (Weiner's model).
   - This encourages performers to not feel demotivated following the loss or fa
   - By attributing success and failure with self-serving bias, an athlete maintains
     personally responsible for failure of a task.

4. Accept suitable answers. For example:
   - Specific – the basketball player believes that they ca[illegible]ot successfully perfor
   - Global – the basketball player believes that b[illegible]e t[illegible]ey cannot perform a
     perform any similar movements (e.g. sh[illegible]ting in open play or passing the b

5. **Mastery orientation:**
   - Mastery cri[illegible]t[illegible]on – a motivation to display competence by developing sk
     foc[illegible]ng on outperforming others.
   - [illegible]ersistence gives an athlete the drive to improve performance, reachin
   - The performer should attribute any success to stable and internal factors (a
   - Approach behaviour applies to performers with high task persistence.
   - Failure of the badminton player should be attributed to temporary, uncontr

   Attribution retraining:
   - Attribution retraining aims to change an athlete's outlook – adapting learned
   - Athletes are encouraged to rethink what is actually causing failure in sport.
   - If athletes unjustly blame external factors that cannot be controlled, they ar
     attribution to factors that can be controlled (internal).

6. Accept suitable sporting examples. For example:
   - **Performance accomplishments** – a badminton player won their last match
     in their next match they are confident in performing successful smash shots
   - **Vicarious experience** – the athlete watches professional badminton on TV a
     being performed. This increases the observer's confidence in their ability to
   - **Verbal persuasion** – the badminton player's coach provides positive feedback
     a match. This increases the player's confidence and they are more willing to c
   - **Emotional arousal** – before a match, the badminton player experiences arousa
     positive effect / readiness to sport. Therefore, the increased arousal creates hig

Section C:

1. **Performance:**
   - High levels of confidence can make the athlete feel prepared for performan
   - This can counteract any negative feelings towards performances as a result
   - Raises arousal levels, allowing for optimal functioning during performance.
   - Sports confidence allows the athlete to have [illegible]ng of 'freedom', making
     challenges.
   - e.g. a rugby player has high co[illegible]n[illegible]e levels during a match. They attempt
     retrieve the ball aft[illegible]e k[illegible]k – they have performed successfully.

   Participation:
   - [illegible]ndi[illegible]ual is confident, they are more willing to participate in the sport.
   - [illegible]es with high confidence will not fear failure or humiliation.
   - Athletes with low confidence are more likely to stop participation, lowering
   - e.g. a rugby player with high levels of confidence is more likely to maintain p
     in a task.

   Self-esteem:
   - High levels of confidence are linked with high levels of self-esteem.
   - Confidence creates a feeling of positivity in the athlete.
   - Athletes will have a higher belief in their ability to perform tasks.

2.
- Attribution retraining aims to change an athlete's outlook – adapting learned
- Athletes are encouraged to rethink what is actually causing failure in sport.
- Weiner's model – if athletes unjustly blame external factors that cannot be reassess their attribution to factors that can be controlled (internal).
- Coaches can provide more reinforcement to athletes, to increase their motiv motivation.
- Athletes and coaches can set achievable targets, to increase the self-esteem they reach the targets
- Coaches should provide frequent praise to an athlete.
- Stress management techniques (cognitive and somatic) can be used by athle decrease as a result of failure in a task or skill.

3. **Advantages (social facilitation):**
- The home team have increased motivation to perform well as they want to
- Players don't have to travel and so feel less stressed and mentally fatigued
- Players feel more comfortable in front of a home crowd, allowing them to e can increase performance
- Athletes may play more attacking and exciting to watch, to entertain the
- Home crowds can cause a decrease in performance of the away team, hel

Disadvantages (social inhibition):
- Pressure from home fans or pressure to succeed at home can cause stress a them to 'choke'
- Small or quiet home spectators will not be as effective in increasing the perf audiences

Exam-style Question:
A Level Paper 2:

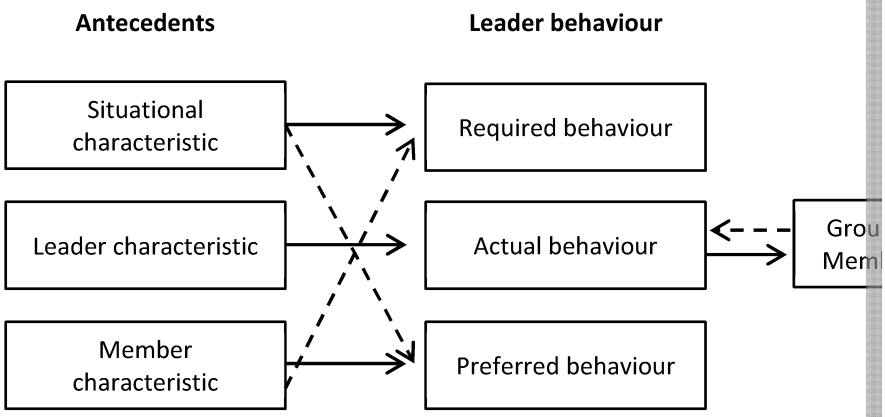
1. Maximum 3 marks AO3 – a coach can improve confidence in the following ways:
- Teaching relaxation techniques to reduce stress and anxiety
- Providing clear and accurate demonstrations
- Providing positive reinforcement for good performances
- Proving support and encouragement for successes
- Allowing success to be achieved within training, improving motivation levels
- Ensuring goals are attainable for athletes, so motivation levels are retained
- Success could be attributed to the athlete's effort and ability, and not to cha
- Athletes could be taught mental rehearsal, providing confidence before exe
- Accept any other suitable answer.

Section A:

1. Any appropriate answers. For example:
   - Highly motivated
   - Inspirational
   - Approachable
   - Organised
   - Highly skilled
   - Ability to motivate teams
   - Empathetic
   - Enthusiastic
   - Good decision-maker
   - Charismatic

2. - Emergent leaders come from within a group (e.g. a football captain)
   - Attributed leaders come from a source external from the group (e.g. a footb

3.



4. (i) Stress is a psychological or physiological tension in response to a stimulus or
   (ii) Causes of stress can include, but are not limited to, the following stressors:
   - Adverse environmental conditions
   - Opposition player behaviour
   - Coach behaviour and pressure
   - Perception of abilities / technique issues
   - Injury frustration

5. - Progressive muscular relaxation
   - Biofeedback
   - Centring technique
   - Breathing control

6. - Warm-ups help an athlete to feel mentally prepared for a task ahead
   - Sport-specific movement and drills during a warm-up lead to increased conf
   - Warm-ups could include specific somatic and cognitive stress management t that help to lower stress levels prior to the beginning of competition

7. A person-oriented leadership style is best used for a situation identified as moder

Section B:

1. Emergent – he originates from within the group/team.

2.
- Situational characteristic: swimming lessons, in which swimming can be dan
- Required behaviour: swimming teacher should adopt an autocratic style bec
- Leader characteristic: an experienced swimming teacher.
- Actual behaviour: if the actual behaviour is autocratic, then the performanc whether an autocratic leadership style is preferred by the learners.
- Member characteristics: the children are all novice swimmers.
- Preferred behaviour: the leader should be autocratic so the novice swimmers sh

3.
- **Mental rehearsal:** the imagining of sporting movements prior to completing broken down in the mind and performed 'perfectly'.

Any of the following with a correct explanation:
- **Psychological skills training (PST):** PST is a general term used for a package management techniques. By using numerous method , PST allows athletes particular situations. For example, a rugby pla ay use self-talk prior to t imagery and visualisation just before tak g a ality kick. This increases th management techniques.
- **Positive thinking / self-talk:** g positive statements out loud helps to im interpreting a i s o essors as positive reduces the negative impact tha c lo t e o increase motivation and, as a result, improve task persis
- **ive thought stopping:** This involves preventing the thinking of negativ g the point in time that a negative thought will appear, then redirect cue word, such as 'positive' or 'stop', can help to redirect the thought.
- **Imagery:** Imagining a peaceful and relaxing scenario can help to reduce the the heart rate and ventilation rate.
- **Visualisation:** A player can mentally replay a skill, as it should be performed physically perform the skill perfectly, by transferring the feelings and skills fr performance. Players can visualise from either a first-person view (internal)

4. **Definitions:**
- **Attentional control:** the ability to monitor and control the level of attention around them and, therefore, the amount of information they can absorb fro
- **Cue utilisation:** the relationship between arousal levels and the ability to ab environment; as arousal levels increase, the amount of information acknow decreases. This is called attentional narrowing.

Explanation:
- In some situations or for some sports performers, an increase in arousal levels c as the performer's arousal levels increase, their ability to absorb information fro
- When this happens, the athlete may absorb non-essential or less informatio cues from the environment are missed. This is called attentional wastage.
  e.g. a goalkeeper defending a free kick may absorb less important informati spectators behind them, and miss important information regarding the spin
- To limit attentional wastage, athletes should change their attentional style,
  - Broad, external – a large variety of information is absorbed from the e e.g. a rugby full back watching the movement and positioning of oppos
  - Narrow, external – the athlete focuses on a specific cue from the envir information absorbed),
    e.g. a snooker player only focusing on pott n ball in front of them
  - Broad, internal – athlete receives a arg v ety of information and int e.g. an American football s sing the movement of the opponents can act to unders d a n event the attacking strategies
  - Narrow, in a hlete receives a large variety of information and i e.g. b player paying attention to the technique used by the opp o t t the athlete can identify the signs of upcoming drop shots and r

5. An autocratic leader:
- Makes all the decisions
- Dictates instructions to the group
- Is set on the outcome and task at hand, i.e. winning

Therefore, in a situation such as within football, an autocratic leader would suit a make strong decisions to amend:
- hostility within the group
- lack of respect between team members
- low motivation levels
- confusion
- identified weaknesse

Section C:

1. Students should identify the characteristics, positives and negatives of each leade

	Autocratic	Democratic
Characteristics	• The leader has total control, dictating the team's strategies and goals • Sole decision-maker • Task-oriented • Not approachable • Does not encourage contributions from others	• Open style of leadership, taking on board the opinion of others • People-centred, focusing on building team relationships • Allows decision-making by others • Good communicator • Creative
Benefits (activities best suited to)	• Team sports • When a quick decision is needed • Poorly organised groups	• Individual sports • Creativity is required • When the group consists of good communicators
Disadvantages	• Perceived as controlling • Stifles creativity	• Can lead to teammates being unsure of their roles • Time-consuming

2. Accept other suitable sporting examples.

Somatic stress management technique	Description
Progressive muscular relaxation	This enables the performer to understand how to recognise te and combat it using muscular relaxation techniques. **Process:** • This requires finding a comfortable and quiet place to lie down • The performer tenses a particular muscle or muscle grou • After this tension has been held for roughly five seconds, muscle is relaxed, allowing the tension to disappear. The performer can use this technique when they feel muscle t during a performance, reducing their stress levels.
Biofeedback	This enables the performer to control their arousal levels by under the physiological symptoms of stress and how to control these.
Centring technique	Centring involves focusing the energy on the centre of the bod is achieved through the use of cue words, which help to direct away from the stressor and on to the body's energy.
Breathing control	Increasing the depth of breathin[illegible]e lowing down the rate to reduce stress. Focusing [illegible]n a[illegible]er[illegible]g the breathing patterns h act as a distractio[illegible]stressors.

Exam-sty[illegible]es [illegible]
A Level [illegible]:

1. B (Vis[illegible]isation) (AO1)

Topic 6: Concepts of Physical Activit

Section A:

1.
- Physical recreation – participation in leisure activity for fun or enjoyment th
- Sport – activities that are completed for entertainment or enjoyment purpo competition.
- Physical education – the compulsory and progressive teaching and learning school or other educational institutions.
- School sport – extracurricular (outside of school hours) sport that encourag learning by students

2. Characteristics to include:

Sporting Term	Characteristics
P ecreation	• Anyo pa pate in physical recreation • ted in for fun and enjoyment • articipation is voluntary • Participation is non-competitive • Focus of physical recreation is placed on inclusion • Inclusion, or removal from, physical recreation is • There is no official referee or officiator – participa themselves • 'Official' courts/pitches, etc. are not necessarily u completed in any open space
Sport	• Has set rules that are enforced • Success is important and is the main goal of partic • Officials are used to help smoothly run the sport a • Some form of reward (intrinsic or extrinsic) is avai performances • Participants are more likely to use official or speci • Higher levels of sporting ability are normally displ stages of learning) • Activities are performed in designated areas such
Physical education	• Is compulsory in all schools at both primary and s • Is part of the National Curriculum • Lessons are planned and structured, and encoura • Variety of assessment methods are used (e.g. phy assessment) • Lessons are designed to meet the needs of the pu • Lessons are taught by qualified teachers in school
School sport	• Occurs outside of school hours (extracurricular) • Can be competitive • Specialised sessions in particular skills or activities

Section B:

1.

Physical recreation:

- (Individuals) Improves general health and fitness of a person by pushing the to occur to their body
- (Individuals) Encourages participants to problem-solve and overcome challe apply to daily life
- (Individuals) Helps to develop cognitive and somatic skills, such as hand–eye and sign of development in children
- (Individuals) Provides opportunities to make friends and socialise with other
- (Individuals) Acts as a way of relieving stress by providing an outlet for pent- relaxing environment to destress in
- (Society) As people become healthier, reduced stress is placed on the NHS, b and also the financial burden of seeing patient
- (Society) Allows people of different minority groups to socialise with each ot
- (Society) Children are encouraged to mix with people of different ages, gend develop a more diverse and accepting society
- (Society) A growth in sport-sector work can be encouraged and provide mor
- (Society) Rate of crime is reduced as people are encouraged to participate in , and keeping people off the streets

Sport:

- (Individuals) Improves general health and fitness of a person by pushing the to occur to their body
- (Individuals) Provides opportunities to make friends and socialise with other
- (Individuals) provides individuals with opportunities to compete
- (Individuals) Helps people to cope with success and failure, due to sport bei
- (Society) As people become healthier, reduced stress is placed on the NHS, b and also the financial burden of seeing patients
- (Society) Allows people of different minority groups to socialise with each ot
- (Society) Children are encouraged to mix with people of different ages, gend develop a more diverse and accepting society
- (Society) A growth in sport-sector work can be encouraged and provide mor
- (Society) Rate of crime is reduced as people are encouraged to participate in energy, and keeping people off the streets

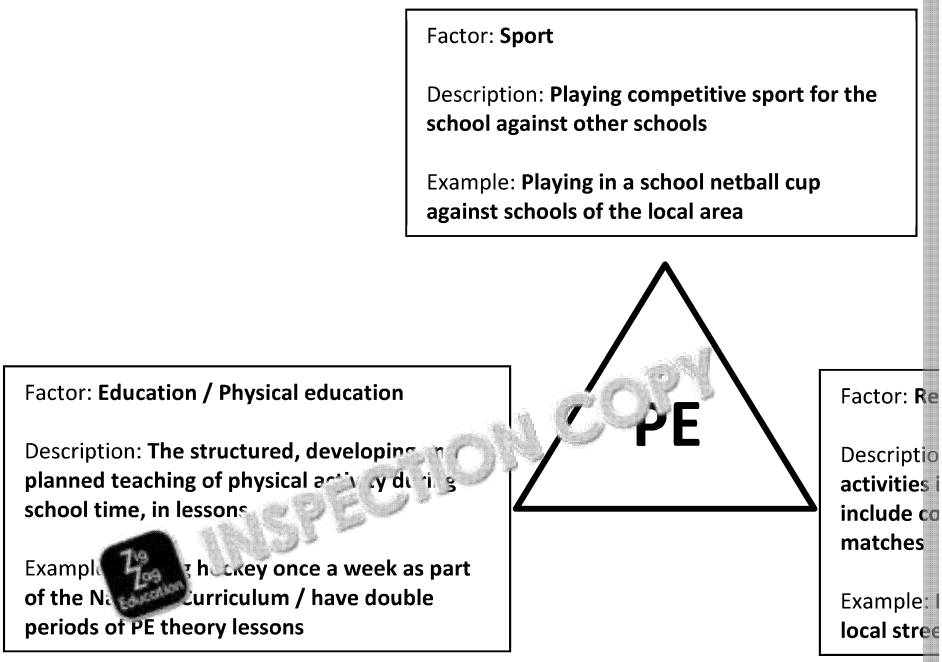
Physical education:

- (Individuals) Improves general health and fitness of a person by pushing the to occur to their body
- (Individuals) Encourages and teaches good health
- (Individuals) Provides progressive, structured teaching
- (Individuals) Helps to teach children important life skills such as teamwork,
- (Individuals) Encourages sportsmanship and good ethics/morals
- (Society) Physical education should encourage students to participate in spo on the NHS as the population becomes healthier and fitter, helping to preve

School sport:

- (Individuals) Gives students opportunities to participate in sports outside of
- (Individuals) Is not compulsory so children who want to be there, can be th
- (Individuals) Provides children with social opportunities, helping social skills
- (Individuals) Further improves health and fitness of children
- (Individuals) Children can improve cognitive and somatic sporting skills furth
- (Society) Extracurricular sport should encourage students to participate in sp pressure on the NHS as the population becomes healthier and fitter, helping
- (Society) Reduces crime or antisocial behaviour as children have an outlet fo away from the streets

2. Accept other suitable examples.



Section C:

1.

PE vs School sport	
Similarities	**D**
• Both require physical movement of a person • Both help to develop a fitter and more healthy body	• PE is in school hours / sc • PE offers specific sport / for unusual or otherwise • PE is compulsory / scho • PE encourages sporting competitive • PE is taught by teachers coaches / specially train

Physical rec vs Sport	
Similarities	**D**
• Both require physical movement of a person • Both help to develop a fitter and more healthy body • Both are performed voluntarily • Both provide some forms of reward, such as feeling better for being active or winning competitions	• Sport is more serious in (outcome rather than pa • Participation in sport te accomplished sportsper rticipants • In physical rec, rules can of the participants. Spor that must be followed. • Physical rec focuses on i from participation. Spor as trophies, due to its m • Sport participants will u equipment to maximise athletes will use no, or l jumpers as football post • Physical rec can be perf Sport may have specific performance levels.

Physical rec vs Physical ed	
Similarities	**D**
• Both physical rec and physical ed place some focus on development of fitness and skills, such as hand–eye coordination and basic movement patterns • Both aim to educate pupils on the positive effects of physical fitness • Both attempt to provide the basis for a lifelong commitment to and lifelong enjoyment of physical activity	• Physical education is co physical rec is non-com • Physical education can i knowledge (e.g. GCSE a • Physical education is ru teacher. Physical rec is • Physical education has physical recreation • Physical education is pe physical recreation is pe

Exam-style Question:

A Level Paper 2:

1. Maximum 3 marks (A
   Any thr fro owing. Accept other suitable answers.
   - students opportunities to participate in sports outside of the National
     tial arts
   - School sport is not compulsory, so children that want to be there, can be the to be engaged in sport
   - Provides children with social opportunities, helping social skills and self-este
   - Further improves health and fitness of children, e.g. preventing obesity in yo
   - Children can improve their cognitive and somatic skills, e.g. mental 'toughne competitive situations

Topic 7: Development of Elite Perform

Section A:

1. **World Class Performance Programme:**
   - Plays a major role in the distribution of lottery funding among athletes and s
   - Primary focus placed on Olympic and Paralympic athletes
   - Three distinct stages identified by the World Class programme, and finances
     - Talent – young athletes who have been identified as talented and their c progress further
     - Podium potential – athletes who have the potential to win a medal at Su the next eight years
     - Podium – athletes with a high chance of winning a medal at an Olympic athletes will receive the highest level of sup

   Gold Event Series
   - Initiative that aims to bring a minimum of 100 international events (across a country)
   - Majority of support are made to bring the most popular/lucrative events to
   - As part of host-nation bidding, the UK must have a financial and strategic pla
   - Hosting such events brings tourism and, therefore, money to the UK
   - This can lead to increased funding for British sport

   Talent ID and Development:
   - UK Sport works alongside the national institutes of sport to develop talent in
   - By having continuous talent ID searches and programmes, as young athletes talented young athletes come through
   - This helps to maintain the UK's pool of talent and chances of success in spor
   - The latest technology is used to track and monitor athlete physical attribute of progressing to elite sport
   - Young athletes with some potential are progressed through a number of sta measures, with only the best athletes progressing to each new level
   - Some athletes may be advised to switch to different sports (with similar phy sprinters who are not quite good enough may be persuaded to try skeleton,

2. **NGBs:**
   - Typically organisations in charge of particular sports (e.g. British Cycling, Brit
   - Attempt to increase participation rates in their sport through use of 'Whole
   - Provide sport-specific facilities for athletes
   - Work with both the general public (grass-roots participation), and up to elite
   - Promote sport to minority groups
   - Send scouts out to identify talent
   - Are responsible for distributing funding within their particular sport
   - Provide world-class coaching and sport science services to elite athletes
   - Also develop coaches and referees through a series of qualifications

   National institutes of sport (i.e. English Institute of Sport, sportscotland, Sport Institute of Sport) and Sports Institute Northern Ireland):
   - Provide a variety of sport science services (e.g. nutrition, physiology, psycho athletes
   - Individual branches of each of the 4 UK health national institutes
   - In control of sport within their country/nation
   - Receive funding from the national institutes
   - Have 'High Performance Centres' which provide athletes with the very best s performance and potential
   - Provide individual, personalised support for each athlete, as part of their 'Pe
   - Facilitate the progress of talented, young athletes into adult sport
   - Identify and support athletes as part of either the 'Podium' or 'Podium Pote Paralympic Games

UK Sport:

- Distributes National Lottery Funding to elite athletes and NGBs
- Primary focus is on Olympic and Paralympic athletes
- Provides further financial support to athletes, allowing them to participate i
  by providing wages and food costs)
- Provides support and knowledge to young athletes, such as nutritional know
  individuals develop into elite adult performers
- Encourages good sporting ethics and morals in athletes

3. (i)
   - English Institute of Sport
   - sportscotland Institute of Sport
   - Welsh Institute of Sport
   - Sports Institute Northern Ireland

   (ii) National Lottery funding and government fun

Section B:

1.
   - Whole sport plans are a plan proposed by NGBs to Sport England, outlining h
     funding to im participation rates in their sport, as well as how talented
     port elite-level sport.
   - important as it means NGBs have structured and organised plans in p
     es processes are streamlined and efficient, ensuring lottery funding is
   - Whole sport plans also provide Sport England with new ideas and perspecti
     talent identification process.

2. An athlete will receive support in the following services:
   - **Sport science** – they provide advice on performer's physiology, biomechani
     support.
   - **Nutritional support** – the performer's diet will be tailored to their sport and
     performance and health.
   - **Psychological support** – key to coping with pressure, stress and anxiety, the per
     controlling their emotions and how to have optimal psychological preparedness
   - **Sport medicine** – the performer will have access to the best legal supplemen
     enhance training and overall performance.
   - **High quality coaching** – the performer will receive a coach of elite standard,
     knowledge to help them achieve success.
   - **High quality facilities** – allows the performer to train under optimal conditi
     facilities.

3.
   - UK Sport acts as the leading governmental organisation for the developmen
   - It receives funding from the National Lottery.
   - It decides where the funding from the lottery goes to.
   - Different sports/athletes in Team GB receive different levels of funding, dep
     sport/athlete in an Olympic/Paralympic Games.
   - UK Sport distributes wealth to each sport's National Governing Body.
   - National Governing Bodies further distribute wealth to athlete, enabling the
     top quality facilities and world class coaching.

Section C:

1. Students should discuss the social, cultural and personal factors.

Social	Cultural
• Depending on the popularity of the sport, athletes may need additional financial support from family and friends (e.g. GB athletes competing in winter sports). This helps pay for travel, equipment and entry to events. This is because there may be limited funding available from the National Lottery in their sport. • Selection for athletic development should be made based on athletes' ability, not their socio-economic status. • Schools, clubs, colleges and universities should provide links to professional clubs and facilities, to allow people of lower socio-economic status to still participate to the highest standard. • Young athletes should be exposed to a wide range of sport in the media, so that they can be exposed to new sports they may be good at, and to provide role models to them.	• Sport governing bodies should have anti-discriminatory policies in place. • Sports should select their representatives based on their ability, not on factors such as gender, race, religion or other cultural factors. • Development of all athletes, regardless of sex, race, religion etc, should start early in development, in schools and clubs, to promote equal opportunities across all areas of sport.

Exam-style Question:

A Level Paper 2:

1. Maximum 8 marks. 2 marks = AO1, 3 marks = AO2, 3 marks = AO3.

Refer to the below guidance table to aid marking.

Guidance Table		
Level	**Marks Awarded**	**Description / Guidan**
4	7–8	Comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demonstr their impact. Appropriate terminology reliably used throughout. Proven rational structure provided, with focused and cl
3	5–6	Usually uses comprehensive and precise knowledge. Application and range of knowledge often displayed. Analysis and/or evaluation is often articulated well, der and their impact. Appropriate terminology often used throughout. Rational structure provided, with focused and clear ans
2	3–4	Sometimes uses comprehensive and precise knowledge Application and range of knowledge sometimes displa Analysis and/or evaluation is sometimes articulated we factors and their impact. Appropriate terminology sometimes used throughout. Rational structure provided, with focused and clear ans

Guidance Table		
Level	**Marks Awarded**	**Description / Guidan**
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge displayed are restr Analysis and/or evaluation is often not articulated well, appropriate terminology occasionally used throughout. Rational structure not provided, with answer not focus
0	0	No relevant content given.

Indicative content can include, but is not limited to:

AO1 – Knowledge:

- National governing bodies are independent organis[illegible]ons that act as the hea They operate below UK Sport (or other equivalent organisations).
- National governing bodies provide their athletes with services including spo psychological support, sport science, high-quality coaching and high-qualit

AO2 – Application

Student[illegible] will [illegible] examples of the services national governing bodies have in [illegible]

- **Sport science** – they provide advice on performer's physiology and biomech support.
- **Nutritional support** – the performer's diet will be tailored to their sport and performance and health.
- **Psychological support** – key to coping with pressure, stress and anxiety, the per controlling their emotions and how to have optimal psychological preparedness
- **Sport medicine** – the performer will have access to the best legal supplemer enhance training and overall performance.
- **High-quality coaching** – the performer will receive a coach of elite standard knowledge to help them achieve success.
- **High-quality facilities** – allows the performer to train under optimal conditi facilities.

AO3 – Analysis

Students will link topics/factors together to demonstrate the impact of national g development of athletes. For example:

National governing bodies provide athletes within their sport-tailored sport scien the best chance to reach their potential, as their training programmes, diets, etc. to the differences between athletes' personalities and attitudes, the psychologica changed to assess the needs of the individual athletes and suitable training progr This means that each athlete can work to better themselves.

National governing bodies also provide high-quality coaching and facilities to athl bodies only work within individual sports (for example, British Cycling), their coac designed for one sport, meaning athletes get the best coaching and facilities avai to develop their skills.

Topic 8: Sporting Ethics, Violence, Drugs, S

Section A:

1.
- **Amateurism** is taking part in sport for fun and enjoyment, but not for financ associated with the middle and upper classes, as they did not rely on sportin
- **Sportsmanship** is the behaviour exhibited by athletes that shows respect to good etiquette and following the rules of the game fairly.
- **Gamesmanship** is gaining advantage over your opponents by 'stretching' th rules. It is, therefore, legal, but argued as being close to cheating.
- **Win ethic** is the intrinsic attitude of a player to win, no matter what.

2.
- All rules and regulations will be adhered to by the athletes
- Athletes will compete in the spirit of fair play (i.e. sportsmanship)
- A promise that athletes will not compete under the influence of performanc cheating methods
- Representing your nation in an Olympics is an honour and, as such, at Fundamental principles of Olympism

3. The following three illegal supplements should be known by students. Accept oth
- Anabolic steroids
- Erythropoietin (EPO)
- Beta blockers

4.

Social reasons:
- Elite athletes are under enormous pressure to succeed (peer pressure or pre
- A need to maintain success by using drugs, or wanting to get to the top leve
- Athletes may want to improve their performance for financial gains.
- The belief that other competitors are using performance-enhancing drugs and
- Athletes may feel they don't have access to the best nutritionists or sporting so performance-enhancing drugs are seen to negate the disadvantages of n

Psychological reasons:
- To make them believe they have an edge, increasing their mental strength
- Some drugs can change the psychological attributes of players to suit their s power-based sports and beta blockers for fine-motor skill sports)

5. Any suitable answers:
- Large funding to prevent and detect drug cheats
- Strict punishments
- Banning athletes (long and short term)
- Banning athletes for missing tests
- Increased frequency of drug testing
- Developing new tests to identify the latest drugs

6.
- Increased awareness of the dangers of taking drugs / blood doping
- Increased athlete understanding of the consequences of being found guilty,
- Campaigns and initiatives in schools and sports centres increase awareness
- Increase awareness of the athletes of which substances are banned and wh

7. a. Local derbies can cause emotions to get too high, resulting in violent b
- If a player is somehow blocked from achieving their goals (e.g. scoring frustration
- Violence might be learned from their coaches
- Previous history between players, coaches or team can cause a sudden
- The violent, physical nature of the sport can cause aggression (e.g. rugb
- Bad press or social media coverage of teams or individuals may cause v frustration of the athletes
- Violence can occur in response to perceived poor officiating (e.g. a refe not the other, for the same offence)

7. b.
- Injury
- Negative impact on future performances
- Punishment (bans, fines, etc.)
- Negatively affect the performer's ability to improve performance level
- Diminished status of a role model
- Players may feel threatened by the event and seek to move to another
- Players can feel threatened by situation and become more violent as a

8.
- Alcohol can make spectators' behaviour become inhibited.
- Violent behaviour in the match being watched can stimulate violent behavio
- 'Mob' mentality – e.g. hooliganism in football.
- Violent acts can be a reflection of society.
- Fierce rivalries between two teams can cause the spectators to act aggressiv Manchester City).
- Social media can cause aggressive behaviour as negative messages can be easily posted

9. **Spectator:**
- Get hurt by getting involved in violence
- Be banned from watching their team live at the stadium
- Their team may perform badly as a result of the distracting behaviour
- Police may be involved, getting the spectator into trouble
- Violent behaviour of some fans can ruin the experience for other fans/spect

Sport:
- Reputation of sport can be damaged
- Reputation of the club can be damaged
- Fewer spectators at live matches
- Young children discouraged from playing in a violent sport
  - This limits elite performance and fewer children take up the sport
- Violent sports overshadow any potential role models within the sport
- Reduced participation rates

Section B:

1.
- Sponsorship may have been stopped, as the sponsor doesn't want to be ass damaging the athlete
- Potentially banned from competition (short or long term)
- Loss of role model status
- Less likely to be picked to represent country
- Possible psychological damage as they feel they cannot compete at high lev
- Negative health consequences, either short-term or long-term (e.g. heart at

2. i. Gamesmanship
ii. Sportsmanship
iii. Sportsmanship
iv. Gamesmanship

3. Examples given below. Accept other suitable answers

Positive deviance	Negative deviance
• Overtraining which leads to an injury, e.g. a 1,500 m runner not resting enough between training sessions, which means they retrain when they are fatigued • Playing while injured, e.g. a rugby player playing through injury so that they can compete in a final	• Taking performan e.g. anabolic stero promote muscle h • Deliberately injuri e.g. a footballer pu the opposition's te • Taking part in mat e.g. a cricket bowl a specific moment gamblers who kne • Cheating to gain a e.g. scoring with y

4. **Players:**
   - Can face financial repercussions from breaking their contracts, e.g. a footba
   - Professional athletes can be fined or banned if they display bad/deviant beh
   - Professional athletes are not immune from legal action (e.g. prison sentence field of play, e.g. if a footballer loses their temper and purposefully and seri
   - Can lose financial income from sponsors if they break contractual terms

   Spectators:
   - Can be arrested and charged if they display unfavourable actions at sportin drunk and disorderly or violent behaviour
   - Can be banned from attending live events (e.g. of their local football club) fo pitch invasions or putting other people's safety at risk
   - Spectators may have to travel in 'bubble buses' to events, which can ruin th

Section C:

1. Students to assess the physiological effects and then discuss the positive and neg

Illegal supp...	...lete	Physiological effects	Positive impac...
Anabolic steroids	**Sprinter**	• Increase testosterone levels • Promote protein synthesis for muscle growth and recovery	• Muscle hypertroph increases strength power out of the b for the driving pha • Help to create a be (increased muscle reduced fat). • Increase strength a power, enabling fo contraction and, th ability to sprint fas • Decrease recovery allowing for longer • Allow athletes to r training earlier due reduced recovery t which allows them time to improve or skills and tactics.
Beta blockers	**Snooker player**	• Inhibit the action of adrenaline • Reduce heart rate • Reduce anxiety • Increase blood flow	• Calms an athlete d which reduces thei • Reduces hand tren to stress or nerves allows them to ma control when shoo • Reduced anxiety p performance, whic allow them to stay zone of optimal fu
Erythropoietin (EPO)	**Long-distance cyclist**	• Increase red blood cell production	• Increased efficienc cardiorespiratory s • Increased delivery to working muscle • Increased cardiova and muscular endu maintaining aerobi and endurance du performance.

2. **Performer:**
   - (Positive) Athletes can more easily push themselves to be successful and bre
   - (Positive) They could reach previously unattainable levels of success and fan
   - (Positive) With success, they may have a lasting legacy
   - (Negative) Sponsorship may have been stopped, as the sponsor doesn't war financially damaging the athlete
   - (Negative) Potentially banned from competition (short or long term)
   - (Negative) Loss of role model status
   - (Negative) Less likely to be picked to represent country
   - (Negative) Possible psychological damage as they feel they cannot compete
   - (Negative) Negative healthy consequences, either short-term or long-term (

   Sport:
   - (Positive) The sport may become somewhat of a spectacle if athletes are do further than ever before
   - (Positive) Allowing everyone to dope creates an even playing field
   - (Negative) Reputation and image can be tarnished as it may be seen to hav
   - (Negative) If young athletes are reluctant to take up the sport, elite pathway performance standards
   - (Negative) Sponsors don't want to be associated with sports that have dopi
   - (Negative) Clean athletes may be accused of doping if they achieve success i

3. Accept other suitable answers.

Drug taking		
For	**Against**	**For**
• Creates sporting spectacles as athletes become bigger, stronger and faster • If everyone dopes, it levels the playing field • Can create a lasting legacy of an athlete if they are successful in sport • If drug-taking were legal, it would become safer as more time could be invested into taking drugs safely • Athletes should have the individual right to 'damage' their body, if they decide to	• Athletes will suffer both long-term and short-term health problems • Clean, honest athletes find it harder to compete compared to drug cheats • If caught, athletes will suffer from a loss of income and face bans from sport • Loss of role model status • Children may be put off from participating in sports associated with drugs • Success in sport should be due to dedication and talent, not by cheating • Drug-taking defies the morals of sport (e.g. the Olympics Oath)	• Drug testing allow athletes to compe without feeling pr to also dope, to k with competitors • Cheating athletes served with bans fines • Helps to create a playing field • Acts as a prevent measure, as well punitive • Allows athletes fr poorer countries compete (as they not be able to aff best doping meth and drugs)

4. Students to identify and discuss relevant strategies for spectators and performers

   Spectators:
   - Increased security measures within sporting arena targets hooliganism and
   - Increased presence of police and CCTV acts as a deterrent.
     - However, this can take police off the streets which has the implication of this places increased financial strain on local councils and police forces
   - CCTV can be used as evidence to identify violent people.
     - This can be costly to local councils (CCTV on the streets) and clubs (CCT
   - Governing bodies can force teams to play 'behind closed doors' as a result of spe
     - However, this can decrease revenue of team from ticket sales.
     - Spectators may be put off visiting the club in the future if it is perceive

Players:

- Use of officials in matches to organise and sanction players during the matc
  - Places increased pressure on officials to make the right decisions and a and fans afterwards.
- Strict rule enforcement from governing bodies following violent behaviour –
  - Banning a player
  - Fining a player / the club
- Punishments used to send strong message out to other players/teams.
- Coaches and managers of teams can enforce their own set of rules that play

5. **Officials:**
   - Officials have a duty of care to protect the players' safety.
   - Officials must enforce the rules and laws of the game, to avoid negligence o
   - Officials have a duty of care to themselves, to ensure they do not face unne
   - Officials can face fines, bans or other penalties if they do not take control of deviant behaviour.
   - Officials must also not be involved in match fixing. Because they play a majo targets of bribes and match-fixing schemes. They could bring the sport into

Coa

- Coaches have a duty of care to protect their athletes. Therefore, they must safety to ensure the athletes are safe.
- Improper training technique, or recklessness in regards to player safety, cou the athlete against the coach.
- Any coach working with young or vulnerable athletes must meet strict criter that may be present to these athletes; for example, an enhanced DBS check
- Coaches have a responsibility to try their best to help educate their athletes performance-enhancing drugs and to prevent them from using them.

Exam-style Question:
A Level Paper 2:

1. Accept other suitable answers. Three marks from (AO3):
   - Alcohol can cause violence in spectators as their behaviour becomes inhibit small triggers, such as some 'banter' from other fans, could cause violent be
   - If players are exhibiting violent behaviour in the match, violence may be cau can be due to spectators mirroring the behaviour of the players or, for exam dangerous tackle on a player on a fan's team, this could become a trigger fo
   - There is a general belief that in some sports, being in a large group of like-m behaviour. This is most associated with the trouble football has with 'hooliga spectators that look to act deviantly.
   - Violent acts can be a reflection of society. This means that if a local area, or violent behaviour, this may be exhibited at sporting events too. Some violen the government, team ownership, etc.
   - Fierce rivalries between two teams can cause the spectators to act aggressiv Manchester City). This is due to a deep-seated animosity or rivalry between fans.
   - Social media can cause aggression as negative messages can be easily posted which they may retaliate to.

Topic 9: The Impact of Commercialisation on
Sport and the Relationship between Spo

Section A:

1.
- Increased public interest in sport – increased interest and spectatorship pro commercialisation.
- Increased media interest in sport – the media provides more and more time sport to become commercialised, to produce revenue.
- Concept of professionalism – performers being paid to play meant an increa best would get picked to play for a wage.
- Advertising and sponsorship – provides a route for money to enter into tea

2.
- Terrestrial TV (free) used to dominate covera[illegible] 1980s – sport coverag channels (e.g. Sky and BT Sport).
- Satellite subscription fees in[illegible] to watch sporting channels.
- Pay-per-view events (such as boxing) create large sums of money for the bro

3.
- [illegible]zines for individual sports, including minority sports
- [illegible]ted back pages of newspapers for sports
- [illegible]cated magazines, papers and sections dedicated to sporting success
- Local newspaper can cover local sport
- Internet provides dedicated websites for specific sports
- Social media pages on the Internet provide forums for fans to discuss sporti
- Sports can be watched on the Internet
- Live radio and text updates are on the Internet, making sport mobile

4. (a)
- Increased potential to become a role model
- Increased earning potential
- Comments from the media can motivate a performer
- Media interaction improves the performer's communication and PR sk

(b)
- Increased pressure from the media to perform well can increase perfo
- Increase stress of the performer as the media becomes increasingly int
- Female sport stars may be seen as fashion accessories, instead of bein

5. (a) Any five from the following:
- Increased viewing opportunities
- Increased knowledge and understanding of sport
- Can identify role models that motivate them
- Watching elite sport can improve their own skill levels
- Generates higher income levels
- Increased commercial and sponsor opportunities
- Retired performers have the opportunity to be commentators in the fu
- Ensures fair play on the pitch, e.g. TMO and Hawkeye during play
- Large audiences can watch the performance live in
- Players are targeted to endorse pro[illegible]
- Opportunities outside of th[illegible]t, e.g. charity work, appearances
- Increased funding [illegible]ons paid for, equipment paid for, etc.
- Any other [illegible]swer

(b) [illegible]re from:
- [illegible]ewer spectators at stadiums
- Repeated exposure to sport can cause boredom
- Spectator may begin to prefer watching sport instead of participating i
- Misunderstanding of the demands of playing live sports so they do not physically participate

6.
- Media interest in sport creates income for clubs and sports.
- The sports with the most interest have a very large financial income.
- Clubs are being run like businesses – the businesses see the clubs as 'comm provides value.

7. (a) Any from the following. Accept other suitable answers.
   - Increased range of viewing opportunities, e.g. different sports channel
   - Increased opportunities to see live games due to the increased numbe

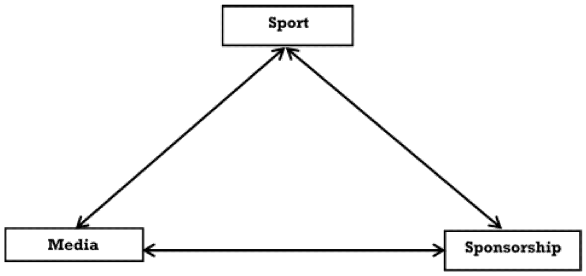
   (b) Any from the following. Accept other suitable answers.
   - Over-commercialisation can cause some spectators to dislike the chan different timings of events
   - The spectators can find the constant exposure to sport tedious
   - The business interests may impact on spectatorship of the sport, e.g. m

Section B:

1. **Positive:**
   - Increased popularity in sport = increased participation rates
   - Promotion of a healthy, active lifestyle
   - Improved brand of popular teams

   Negativ
   - ity sports receive less coverage.
   - erage on TV and the Internet increases, demand for tickets to live ma
   - Less public participation in sport as they can watch it instead.
   - Reduced public participation leads to reduced talent development.

2. Reference should be made to a professional club in students' answers.



   - Sport uses the funding of sponsorship to increase the revenue of a team – th facilities, players).
   - Sponsorship uses the sport to promote its brand, using the club as an advert
   - Sponsorship uses the media to advertise its brand to a wider audience (e.g.
   - The media sees sport as a commodity as live sport can be broadcast to millio control over programming of live events).
   - Sport uses funding from the media's broadcasting to improve the quality an

3. **Positive:**
   - Officials can experience a 'celebrity' status, becoming household names
   - High-level officials can officiate as a full-time li ning good salaries
   - They can encourage more people to bec me officials, by becoming role mo
   - Officials experience better tec nd funding as sport becomes comm
   - Increased media inp e.g. camera angles) can make officiating easier as th performanc e.g. TMOs in rugby)

   Neg
   - icials face Increased pressure due to footage replays / punditry
   - Any mistakes by officials are magnified as camera angles and slow-motion te This can lead to loss of work if a bad error is made.
   - New technology to aid decision-making may only be available to elite clubs /

Section C:

1. **Coaches:**
   - (Positive) More opportunities for work and increasing salaries as sport recei
   - (Positive) Their club/team can attract and transfer better athletes if the club commercialisation
   - (Positive) The coach will have access to better technology (which can be exp equipment
   - (Negative) Athletes' salaries can cause discontent within a team if there is a
   - (Negative) As sport becomes more commercialised and more business-like, good results, or face losing their job
   - (Negative) Players have more commitments, such as sponsorship deals, mak their job as they must work around other commitments
   - (Negative) Agents of athletes are increasingly inv[illegible] in players' financial n barrier in contractual agreements betwe[illegible]s and players

   Officials:
   - (Positive) Increased [illegible]ding t[illegible] support training and development of officials involved wi[illegible]
   - [illegible]ive) [illegible]g a top-level official in some sports (e.g. football) can now be
   - [illegible]ve) Officials' jobs can be made easier with the introduction of expensi TMOs in rugby. This can help to reduce the pressure and criticism placed on
   - (Negative) If mistakes are made, officials are under increased scrutiny, due t angles, slow-motion cameras, etc. magnifying the mistake of the official
   - (Negative) Athletes are more likely to exhibit deviance or other forms of che victory. This can make the officials' lives harder.

2. **Positive:**
   - 'Celebrity status' from a raised profiles by coaching successful teams
   - Coaches and managers can earn high wages from managing/coaching at hig
   - More footage of matches (e.g. on television) allows more detailed match an coaches and managers identify flaws in performance/tactics or, indeed, succ

   Negative:
   - If their team of athletes underperform, they can be placed under increased
   - Due to the increased value of sport (i.e. the most successful teams earning t managers are placed under increased scrutiny and pressure
   - Coaches and managers of lower-ranked athletes and teams may earn signifi less praise, as the media largely places its interest in the best teams

3. Accept other suitable answers

Effects of Commercialisation on…	Positive	
Individual sports	• Increased coverage • Increased financial strength • The competition or[illegible]ition is improved • N[illegible]pe[illegible]ons are created	• Ther • Busi • Spor
Performers	• Earning potential has greatly increased • Role model status • Improved facilities, training equipment, etc. from the increased revenue	• Char num team incre the p • A gre life n esca • Med spor cons • If the can less

Exam-style Question:

A Level Paper 2:

1. Maximum 3 marks. 3 marks = AO3.
    - Sponsorship uses sport (e.g. the clubs/teams) as a platform to advertise
    - Sponsors can increase brand awareness and their income from customers b brings in more money to their company and allows them to grow.
    - Sport uses the funding of sponsorship to increase the revenue of a team – t an increase in the quality of players (by buying them) and facilities/equipme

Topic 10: The Role of Technology in Physical

Section A:

1. Any from the following. Accept other suitable answers.
   - Steps taken / distances covered
   - Calorie intake from food and calories burned through exercise
   - Speed / velocity of movement
   - Sleeping patterns
   - Heart rate

2. Answers to cover the following; accept other suitable answers.
   Facilities:
   - Upgraded facilities – facilities now have better quality equipment which can (e.g. the elderly and disabled)
   - Facilities such as public leisure centres are affordable to all, meaning that th retired people and disabled people unable to work, are still able to participa
   - Multipurpose gyms – people can now have a multipurpose gym which targe within the machine safely (i.e. they can be adapted to suit the needs o abilities)
   - Development of indoor or all-weather facilities (e.g. 3g pitches) allows peop
   - Olympic legacy facilities – top-level facilities built for Olympic Games (such a continue to be used as sporting facilities for both the general public and elit opportunity to use high-quality facilities.

   Equipment:
   - (Elderly) Improvements to equipment (e.g. synthetic materials in running sh taxing on fragile bones and limbs
   - (Elderly) Wearable sports equipment that tracks participation levels makes i exercise levels and ensure they are meeting targets
   - (Elderly) More equipment is now being developed that can be adapted to m
   - (Disabled) Equipment can now be adapted to allow disabled people to parti wheelchairs and prosthetic limbs

3. - Fitness monitoring
   - Game/match analysis
   - To guide skill and technique development
   - To allow talent identification or sports scouting
   - To help prevent and treat injuries

4. - **Name:** Electrostimulation
   - **Description:** Passing electrical impulses through the body to cause contracti to be stimulated and active, without the need for training sessions to occur. muscles.
   - **Name:** Vibration technology
   - **Description:** A machine that vibrates rapidly and, therefore, causes rapid co gives athletes a feeling that they have had a strenuous training session, with for example, lifting weights.

Section B:

1. - Allow athletes to understand how their bodies are responding to exercise. F ors during jogging
   - to assess the effectiveness of training programmes by monitoring incr example, working at the same intensity in all training sessions, but noticing t session (i.e. they are working less hard to maintain the intensity).
   - Modern technology can help identify flaws in technique/performance, whic targets. For example, a sprinter identifying that their acceleration from the b becomes their short-term goal in training.
   - Or other suitable answer.

2. Accept suitable answers. For example:
   - Force platforms – devices that monitor the forces acting on a body during m athlete is applying the correct amount of force in the right directions. This is who look to maximise the efficiency of their movements.
   - Slow-motion video / motion analysis – use of video cameras allows coaches a very detailed manner, which can help pinpoint flaws in performance or tec
   - Self-pitching baseball/tennis machines – these allow an athlete to train cont become autonomous.

3. - **Action replays** – spectators and commentators are able to see parts of the a and excitement in the sport; for example, controversial moments.
   - **Multiple camera angles** – action that would have been previously missed ca camera angles. High levels of skill can also be more appreciated from more a
   - **Slow-motion technology** – greater appreciati[illegible] levels of skill can be down into sub-movements so fans can attempt to replicate skills or moveme these to drive training sessions
   - **Improved analysis** – [illegible]nce performance variables can be looked can provide a[illegible]or comparing teams, or individual athletes.
   - **Talent identification** – databases can be produced with a collation of perfor used to identify early signs of talent. For example, assessing the phys ating this to how they may develop when they are older.

Section C:

1. - **Access:**
     - Wider access to tools to improve performance (facilities and equipmer
     - Improved access for disabled athletes (ramps and lifts)
   - **Facilities:**
     - Modern technology has improved the level of sporting facilities availab
     - Adverse weather conditions can be overcome by indoor facilities and al
     - Examples: all weather pitches and moving floors/boundaries in swimm
   - **Equipment:**
     - Modern technology has made equipment more suitable to sport
       - e.g. lighter racquets / clothing materials for cyclists / spikes for ru
   - **Monitoring of exercise:**
     - Fitness monitoring and positional monitoring
     - Monitoring equipment increasingly accurate, reliable and valid
       - e.g. heart rate monitors (fitness), force platforms (power), GPS (d
   - **Safety:**
     - Technology has made participation safer, encouraging more people to
     - General participation can rise if sport is safer, increasing future elite-le

2. Accept any other suitable answers to those given in the table

	Positive impact	
Sport	• Improved fairness of the sport, as key decisions made by the officials can be checked to ensure that the correct call was made • Improved performance levels of performers which reflect the attraction and popularity of the sport • Some technology such as all-weather pictures prevents fixture pile-up due to bad weather • Allowing the spectators to have a greater insight into the sport can help boost its popularity	• Delayed video te game • The com tradition sport co

	Positive impact	
Performer	• Technology can improve the equipment, such as making bikes lighter, which can in turn improve performance levels, improving the quality of the sport • Use of technology such as hyperbaric chambers can help to improve recovery time • Improved facilities can aid performance, e.g. better training facilities can help performers target specific fitness components to improve their performance • Knowledge that the correct decision can be made (via technology such as TMO) improves the sense of fairness for the performer • Analysis of performance can help to target particular improvements in their technique	• Some te perform football more tra foot inju • A player waiting technol • Perform due to t in a divi perform
Coach	• Technological advances, such as video analysis can help to pinpoint improvements that are needed in an athlete's technique, aiding the coach's explanation • Coaches can use modernised equipment to help improve athletes' performance levels, thus improving their success rate as a coach • The use of improved facilities such as all-weather pitches ensures more contact time between the player and the coach, allowing them more time to get their point across	• Some co most re the asso are at a • New tec reliable, out, me negative used do
Audience	• The audience can become more involved with the sport, i.e. more analysis, improved camera angles, etc. • Technology can improve the viewability of sports, with more high-definition cameras improving the quality of the filming • There can be a reduction in fixture pile-ups as a result of bad weather, meaning that the audience have a more regular fixture list to follow, which can result in an increased likelihood of being able to watch the games live	• The aud the spor • Pauses i frustrati • Can find become enjoyme

Exam-style Question:

A Level Paper 2:

1. A (Building adapted equipment) (AO1)