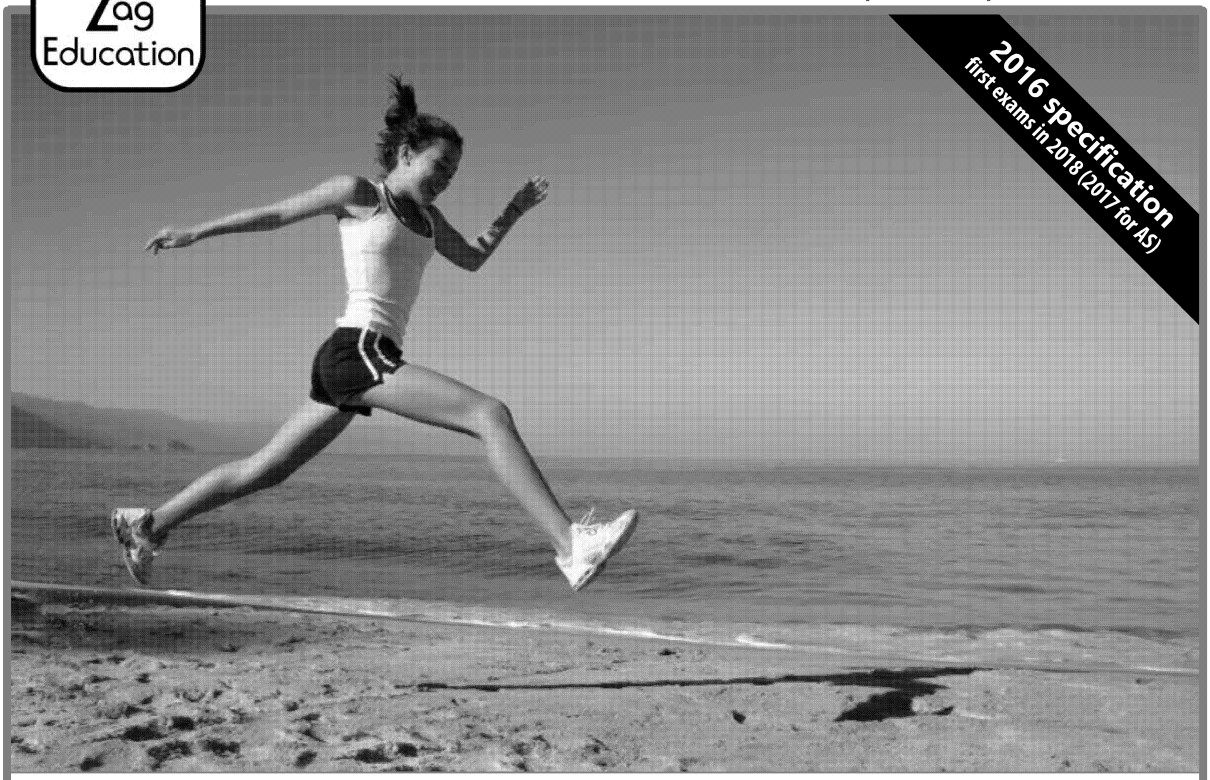
PE

AS / A Level (Year 1) | AQA | 7581/7582



Active Revision Worksheets

For AS / A Level (Year 1) AQA PE

Co-teachable AS and A Level

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POD 9199

Active Revision Worksheets

For AS / A Level (Year 1) AQA PE

Contents

Teacher's Introduction

This resource contains activity worksheets covering the whole of the content for the A Level AQA PE (Year 1) theory 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

Remember!
Always check the exam board website for new information, including changes to the specification and sample assessment material.

Each topic follows this structure:

Section A (write on)	This section is designed to recap students' knowledge, and contains factual questions and activities based on what they have learned in class (AO1).
Section B (write on)	In this section, students apply their knowledge to sporting situations to give them practice for the sports-based questions that they will face in the exam (AO2).
Section C (non-write on)	This section enables students to discuss or evaluate the topic area (AO3).
Exam-style Questions (non-write on)	This contains exam-style questions for students to practise their exams.

Each topic has a checklist, based on the specification, of everything students need to know for their exams. Students should use this table to track their progress and confidence against each of the given objectives for the topic. The levels are as follows:

- **Bronze** – 'I am not completely confident. I have revised the content, but I don't fully understand it and need to revise this more.'
- **Silver** – 'I am semi-confident. I understand the content, but need to improve my application and evaluation of knowledge.'
- **Gold** – 'I am confident in my knowledge and application of the content and feel I can effectively evaluate and analyse the content if required.'

Not every student will need to work through every topic – where students are happy that they already have the knowledge on a particular topic, they may wish to progress directly to Sections B and C, in order to revise applying it and evaluating it. However, should students fail to score full marks in these sections, it is recommended that they go back and do the knowledge revision activities in Section A.

This resource is co-teachable for the AS and A Level courses with practice exam questions structured around the relevant exam.

O Walters, November 2018

Active Revision Work

For AS / A Level (Year 1) AQA

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

Topic 1: Cardiorespiratory

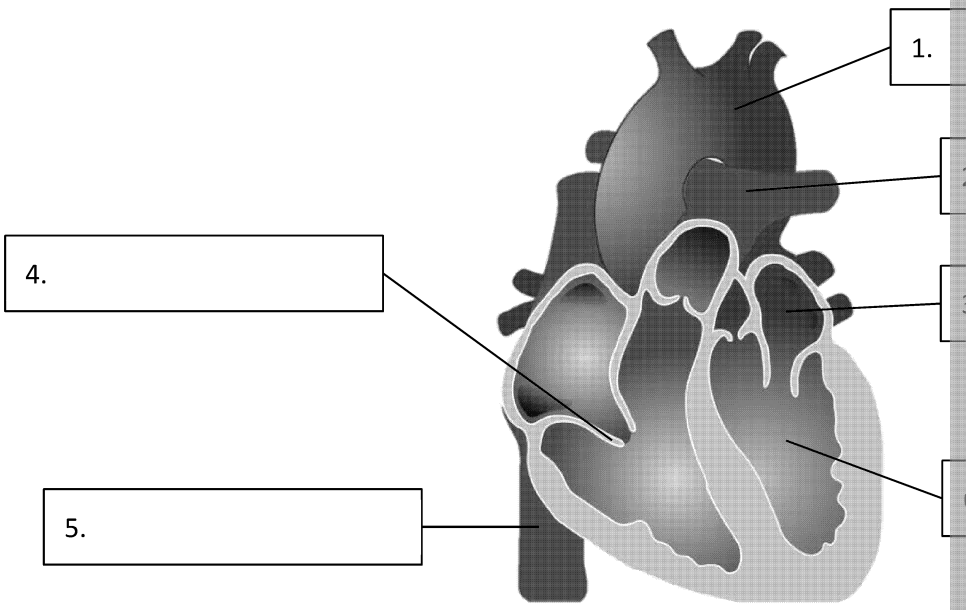
A: Cardiovascular System

Knowledge Checklist

Relationship between physical activity, health and fitness
Structure and function of the cardiovascular system
Cardiac conduction system
Definitions and calculation of heart rate, stroke volume and cardiac output
Response of the cardiovascular system to exercise: cardiovascular drift and a-V
Vascular shunt mechanism, venous return and Starling's law
Regulation of the heart: neural, hormonal and intrinsic and the receptors involv
Oxygen transportation: disassociation of haemoglobin graph and the Bohr

Show & Demonstrate Your Knowledge

1. Label the diagram of the heart using the boxes provided



2. Define the following terms:

(i) Heart rate .....

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(ii) Stroke volume .....

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(iii) Cardiac output .....

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3. What role do semilunar valves have during diastole?

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4. Describe the process of systole.

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5. Nam[illegible] the key stages of the heart's conduction system. Provid[illegible] and [illegible] whole conduction system in order by placing the numbers 1 t[illegible] provided.

☐ Purkinje fibres

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☐ Sino-atrial node (SA node)

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☐ The bundle of His

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☐ Atrioventricular node (AV node)

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6. Circle the correct statements that [illegible] to the cardiovascular responses t[illegible]

Vasodi[illegible]n [illegible]rteries leading [illegible]s such as the kidneys [illegible] stomach occurs.

Vasoconstriction of arteries leading to the working skeletal muscle occurs.

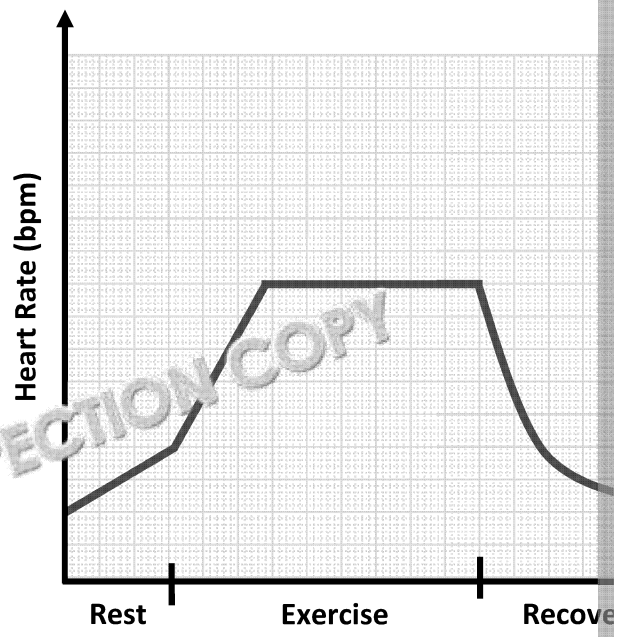
More oxyg[illegible] myoglobin

The vasomotor centre regulates blood flow.

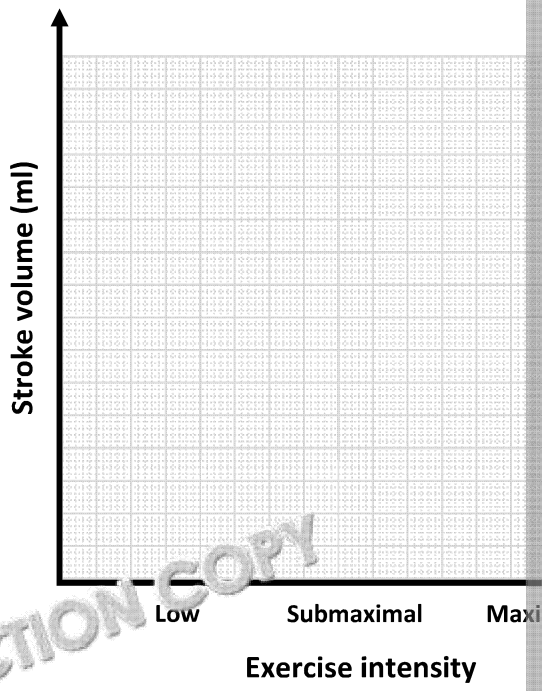
Vasoconstriction of arteries leading to organs such as the kidneys and stomach occurs.

The vascular shunt mechanism control[illegible] amount of blood needed during exerc[illegible] contracting blood vessels, forcing bl[illegible] the working skeletal muscles.

7. (i) Below is a graph showing an approximate heart rate graph of an athl
Draw an additional line on the same graph to show how heart rate w
maximal intensity.



(ii) Plot three points on the graph below to illustrate how stroke volume
intensities (low intensity, submaximal intensity and maximal intensity
Join your points together with straight lines.



(iii) ...e correct answer to identify whether a trained or an untrained
...e cardiac output at rest, during submaximal exercise and during

Cardiac output at rest	Trained (higher) ❑	Unt
Cardiac output at submaximal exercise	Trained (higher) ❑	Unt
Cardiac output at maximal exercise	Trained (higher) ❑	Unt

8. Name and describe the mechanisms of venous return and the influence o

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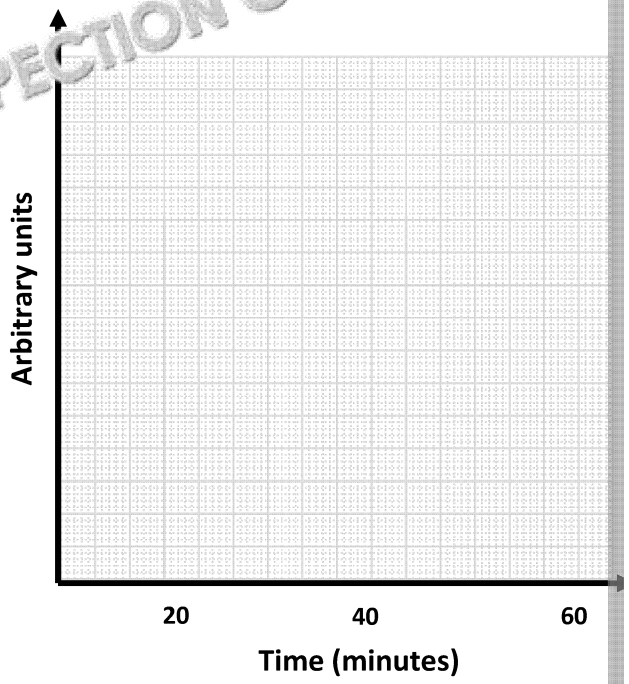
9. Draw three lines on the graph below, to illustrate cardiovascular drift. Ma
lines/colours and provide a key to clearly indicate the different lines.



10. What is arteriovenous difference (a-VO_2 diff)?

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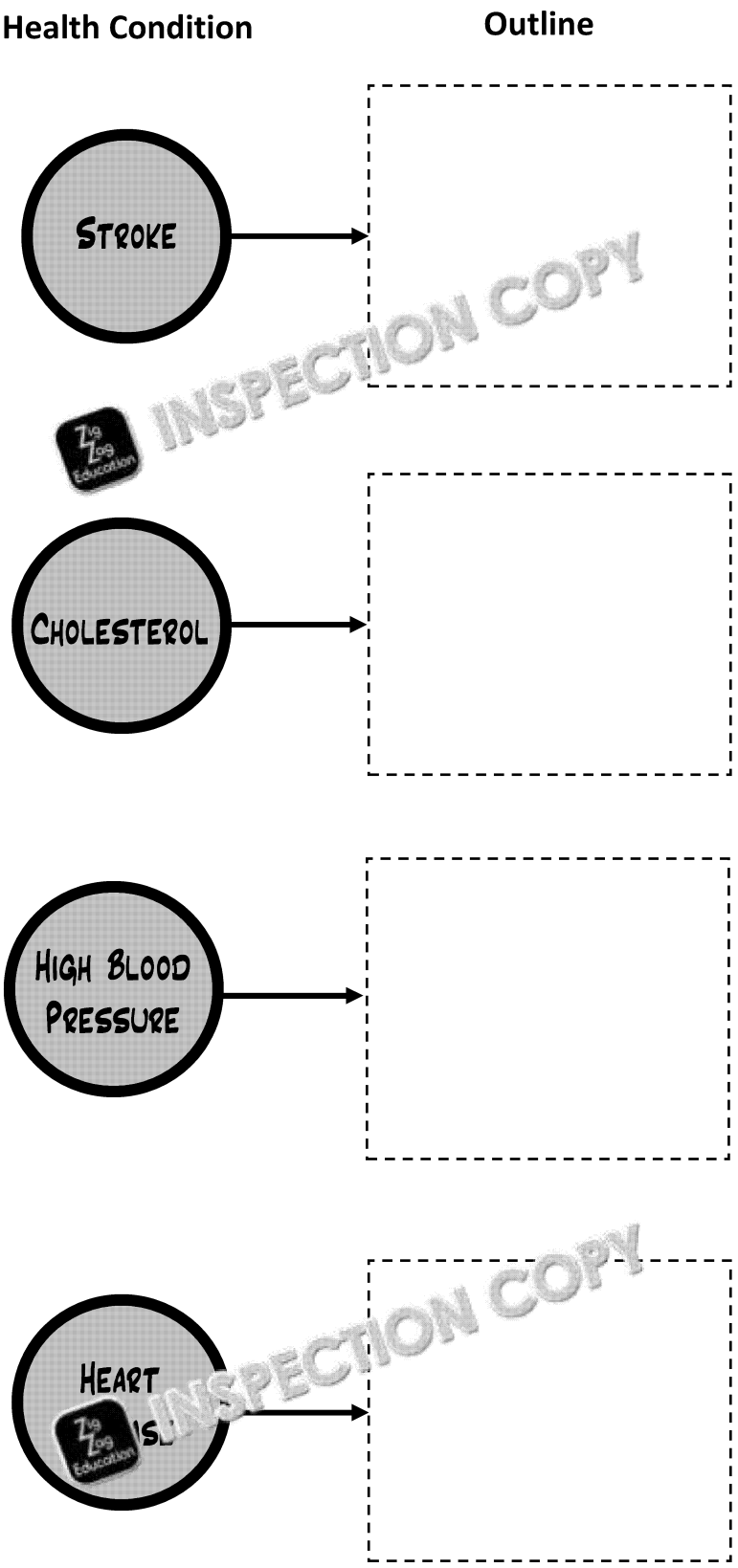
11. Maintaining a healthy lifestyle helps to prevent disease and health proble
of each health condition. Then, match the health condition to the correct
physical exercise on the condition.



Section B: Apply Your Knowledge

1. A professional netball player had her cardiovascular system measured at r
exercise. Her results are displayed below. Calculate the athlete's cardiac

Values at rest	Values during submaximal exercise	Values during h intensity exer
Heart rate (bpm) = 64 Stroke volume (ml) = 70 **Cardiac output =**	Heart rate (bpm) = 100 Stroke volume (ml) = 10 **Cardiac output =**	Heart rate (bpm) Stroke volume (m **Cardiac outpu** .....

2. During a fight, a boxer would require more blood to be distributed aroun
performance. Describe the cardiovascular processes a boxer's body woul
maintain performance, including following a fight, when they are recoveri

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3. During the 5,000 m race, a runner's venous return will increase to allow blood to be recirculated around the body. Explain Starling's law and the effect it has on sporting performance.

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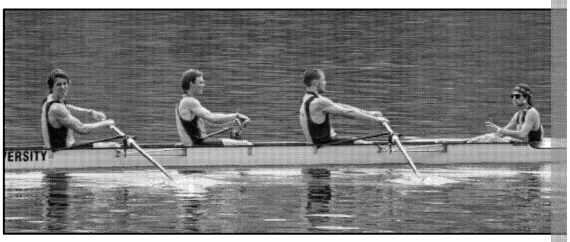
4. With reference to a rower, explain cardiovascular drift.



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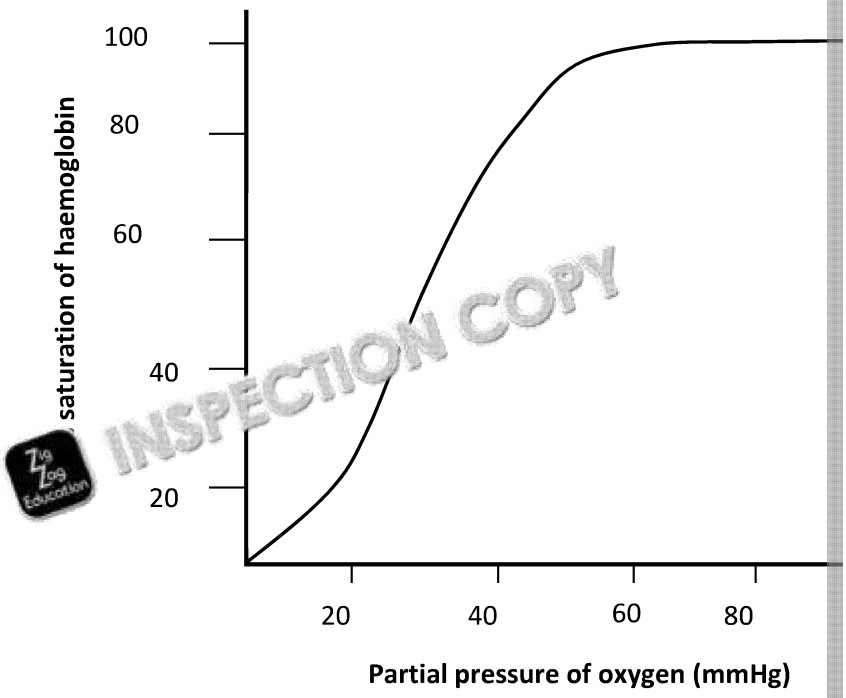
5. Beneath each image, describe and explain the differences in the a-VO_2 di
from rest to exercise.

Untrained:

6. Below is the oxyhaemoglobin disassociation graph.



(a) Describe what the oxyhaemoglobin disassociation graph shows.

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(b) Draw a line on the graph to represent the Bohr shift.

(c) What does the Bohr shift show? Why does this effect happen?

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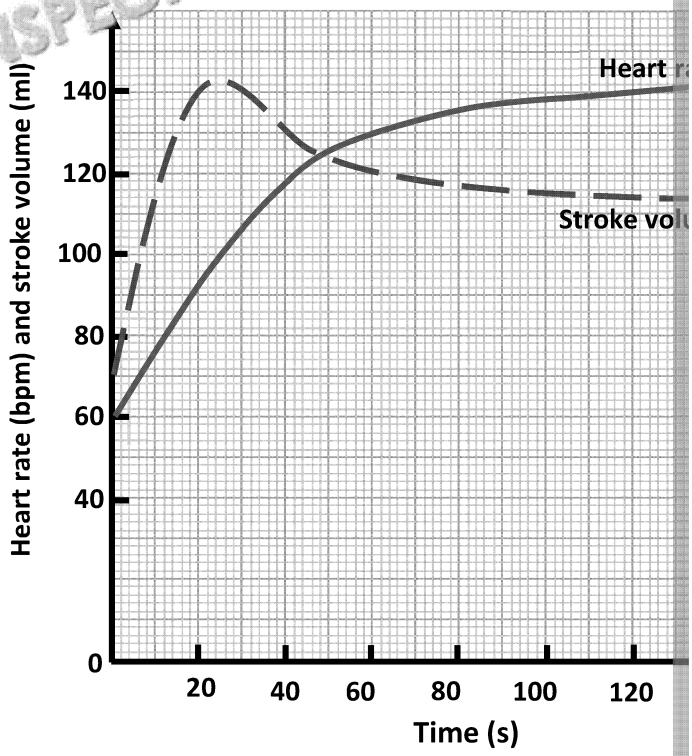
Section C: Analyse and Evaluate

1. Using your knowledge of the cardiovascular system, analyse how a triathl
hormonal, chemical and neural factors to allow them to take part in stead

Exam-style Questions

AS Level Paper 1: Factors Affecting Participation in [illegible]ical Activity and S

1. The graph below shows the hear[illegible]nd stroke volume of a rower duri



Using the graph, calculate the cardiac output of the rower 60 seconds int

A Level Paper 1: Fa[illegible] Affecting Participation in Physical Activity and Sp

1. Exe[illegible]d physical activity improve the health and function of the cardi

Identify two responses of the cardiovascular system that help to regulate

Topic 1: Cardiorespiratory

B: Respiratory System

Knowledge Checklist

Lung volumes: breathing frequency, tidal volume, minute ventilation, residual volume, expiratory reserve volume and inspiratory reserve volume
Gaseous exchange at alveoli and the muscles
Regulation of breathing: hormonal, neural and chemical regulation, and corresponding receptors
Response of the respiratory system to exercise
Impact of poor lifestyle choices (smoking) on the respiratory system
Oxygen transport

Section A: Demonstrate Your Knowledge

1. Define the following terms:

(i) **Tidal volume** .....

.....

(ii) **Minute ventilation** .....

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(iii) **Residual volume** .....

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(iv) **Expiratory reserve volume** .....

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(v) **Inspiratory reserve volume** .....

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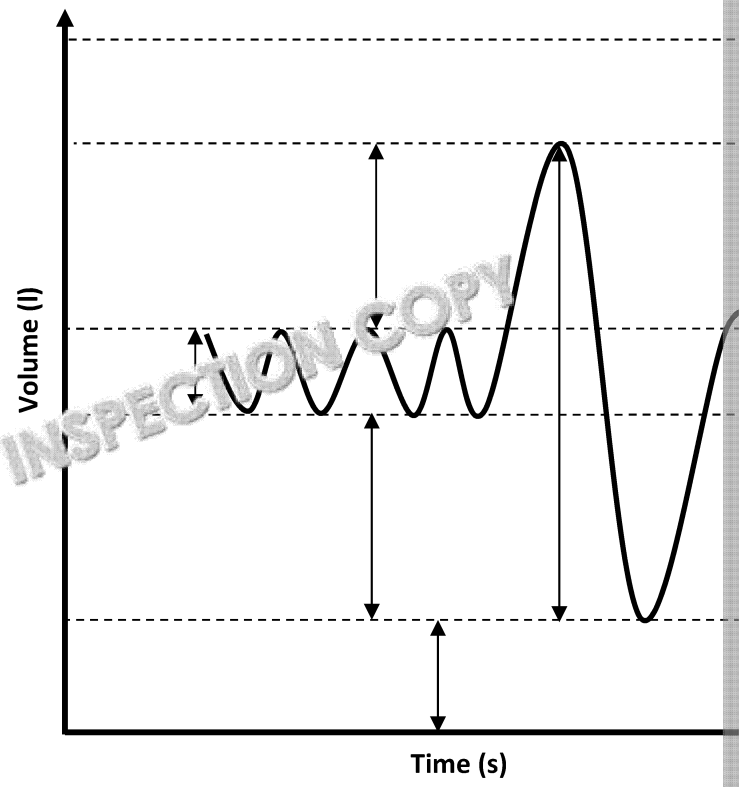
2. Give the average resting values for breathing frequency, tidal volume and

Respiration measure	Av
Breathing frequency	
Tidal volume	
Minute ventilation	

3. Label the spirometer graph below with the following key features:
tidal volume, inspiratory reserve volume, total lung capacity, vital capac
residual volume



4. (i) What is meant by the term 'diffusion' during respiration?

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(ii) Describe, using a diagram, gaseous exchange at the alveoli.

5. Match the statements provided to whether they are referring to hormona
pulmonary ventilation during physical activity and sport.

Temperature increases detected by thermoreceptors causing an increase in respiratory rate

CHEMICAL

As lungs expand (fill with air), stretch receptors in lungs stimulate ECC to c[illegible] tio[illegible]

NEURAL

Acetylcholine triggers the parasympathetic nervous system, which slows down heart rate; therefore, the breathing rate decreases to bring the athlete back to a normal resting state

HORMONAL

Detection of changes in blood acidity levels, caused by carbon dioxide

Section B: Apply Your Knowledge

1. A person training for a half marathon wanted their respiratory system tes
their minute ventilation tested at rest and during exercise. Their results a

Calculate their minute ventilation at rest and during exercise.

Values at rest	Values during high-intensity exercise
Breathing frequency (breaths per minute) = 11	Breathing frequency (breaths per minute) = 35
l volume (ml) = 550	Tidal volume (ml) = 5,000
Minute ventilation = ...	**Minute ventilation =** .....

2. Describe the factors that aid gaseous exchange at the lungs and muscle ti

	Factor that aids gaseous exchange	
Lungs		
Muscle tissue		

3. Fill in the flow chart below, explaining the impact that smoking has on a p

(i) Effects of smoking on the **respirat**

(ii) Ef ect of moking on **oxygen trans**

(iii) Overall effect of smoking on **sport and physical activity**:

Section C: Analyse and Evaluate

1. Explain the significance of hormonal, neural and chemical regulation duri pulmonary ventilation.

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Gaseous exchange occurs at the muscles and in the alveoli of the lungs. Tick which answer most accurately defines the term 'diffusion'.
   (a) Movement of gases from an area of high concentration / partial pressure to an area of low concentration/partial pressure
   (b) Movement of gases from an area of low concentration / partial press to an area of high concentration / partial pressure
   (c) Movement of oxygen from an area of high co ntration/partial pres to an area of low concentration / par ure
   (d) Movement of air from a ea ow concentration/partial pressure to an area of hi con ration / partial Pressure

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

1. Explain how diffusion at the alveoli allows a marathon runner to maintain

Topic 2: Neuromuscular S

Knowledge Checklist

Characteristics and functions of muscle fibre types
Sympathetic and parasympathetic nervous systems
Proprioceptive neuromuscular facilitation (PNF) and proprioceptors
Muscle fibre types and their recruitment at different intensities of exercise

Section A: Demonstrate Your Knowledge

1. Draw and label a simple diagram to illustrate what a motor unit is.

2. Outline the recovery rates of the two muscle fibre types given, based on t

Type 1 (slow ... t): .....

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Type IIb (fast glycolytic): .....

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3. Outline the features of each muscle fibre type.

Characteristics	Slow twitch (type I)	Fast oxidative glycolytic (type IIa)
	.....	.....
	.....	.....
	.....	.....
	.....	.....
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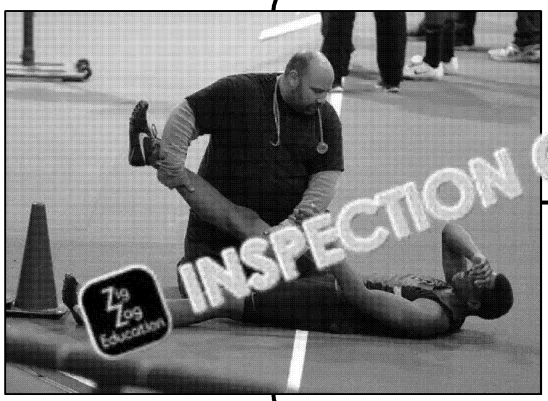
4. Name and outline the stages of proprioceptive neuromuscular facilitation



Stage 1:

Stage 2:

Stage 3:

Section B: Apply Your Knowledge

1. Match the activity to the predominant type of muscle fibre that the athlet
performance.

100 m sprinter
Football player
Marathon runner
[illegible]
Road cyclist
Weightlifter

2. Using two different sporting examples, explain how the two branches of t
performance.

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3. Explain how proprioceptors act to reduce injury in gymnastics.

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Section C: Analyse and Evaluate

1. (i) Using examples in sport, explain how the size of a motor unit influen

(ii) Explain what is meant by the 'all or none' law.

2. Using your own knowledge and the diagram below, explain why muscle fibre types are important to a games player and explain how the theory of muscle fibre recruitment relates to games players.

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Justify why a rugby player may perform proprioceptive neuromuscular fac

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

1. Ide[illegible]o characteristics of slow twitch (type I) muscle fibres.

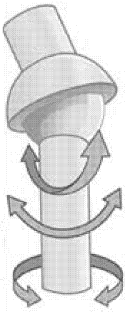
Topic 3: The Musculoskeletal
Movement Analysi

Knowledge Checklist

Structure and location of bones and muscles
Joints, muscles and movement patterns at the shoulder, knee, elbow, hip and ank
Planes and axes of movement
Antagonistic muscle action and types of contraction
Analyse movement in terms of joint type, movement produced, muscles involved types of contraction, planes and axes

Section A: Demonstrate Your Knowledge

1. Belo examples of synovial joints found in the body. Label each imag represents and give an example of a place it appears in the body.

		
Joint type		
Location in body		

2. Name and describe the features o ovial joint.

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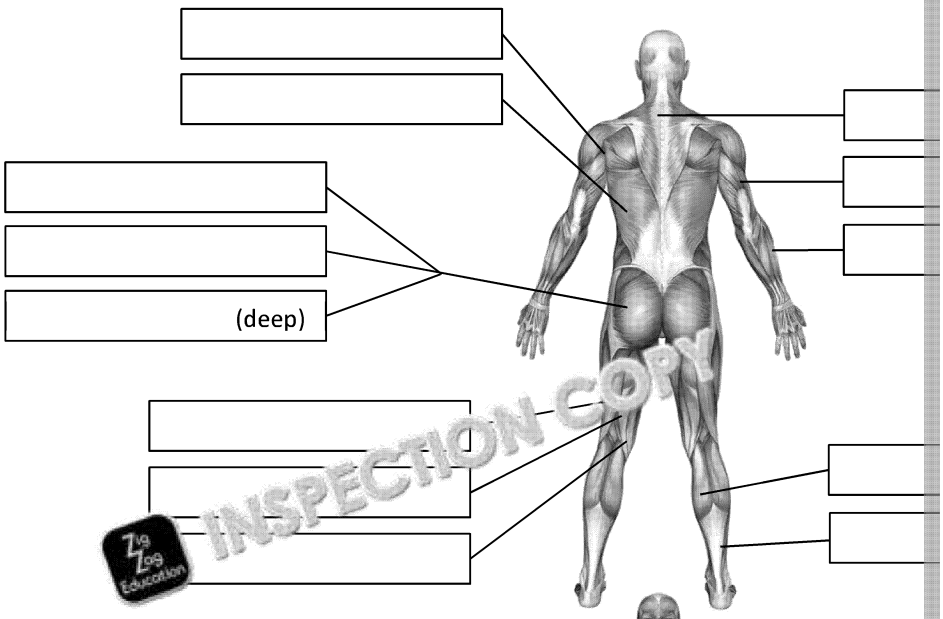
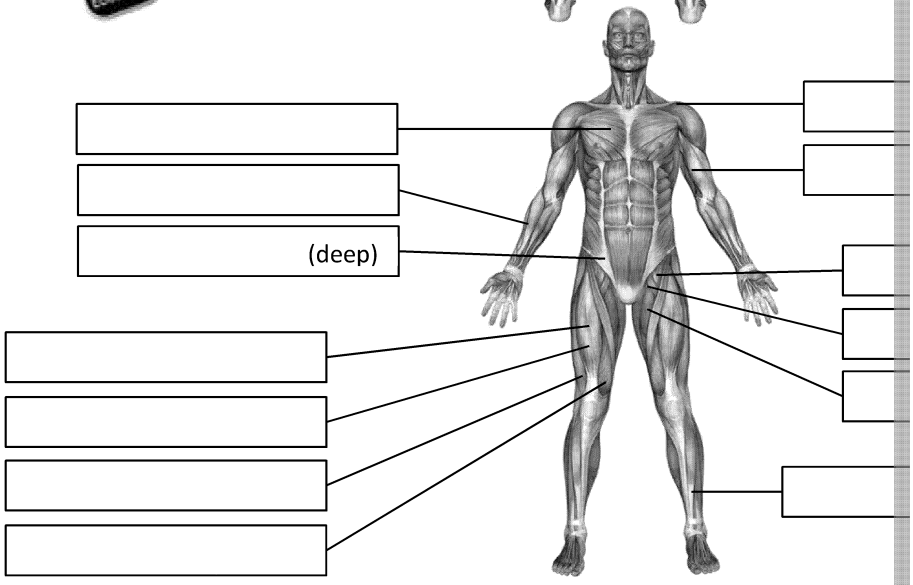
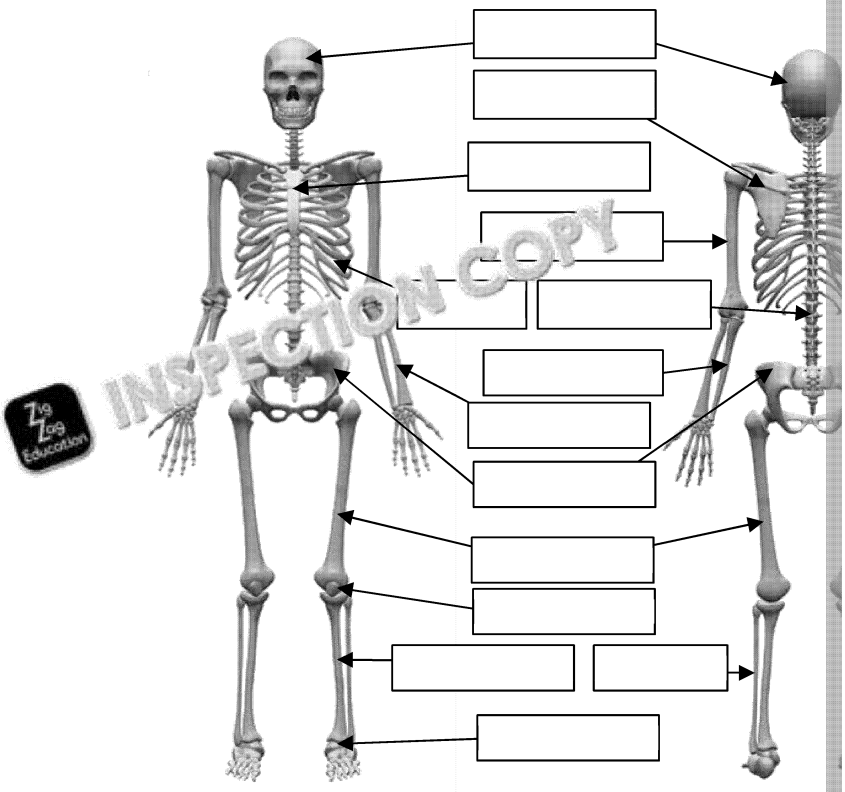
3. Label the key muscles and bones on the anatomical figures below.



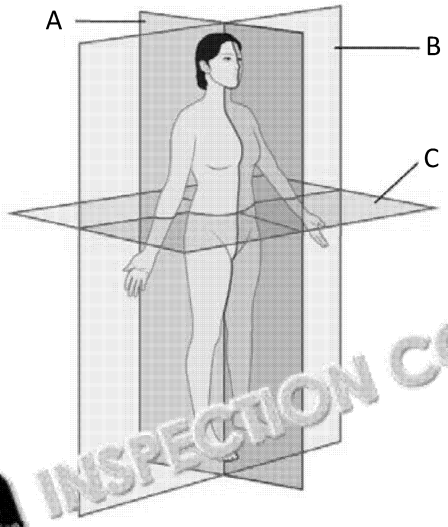




4. Fill in the blank spaces in the table, identifying the joint, movement types agonists responsible for movement at the joint.

Joint	Possible movement types	Definition of movement	M
		Decreasing the angle between the tibia and the foot	
		Increasing the angle between the tibia and the foot	
Knee	Flexion		
	Extension		
Shoulder	Flexion		
	Extension	Increasing the angle between the arm and the back of the body	
		Movement of the shoulder backwards, past the side of the body until it cannot be moved any more	
		Increasing the angle between the arm and the side of the body	
		Decreasing the angle between the arm and the side of the body	
	Horizontal adduction		
	Horizontal abduction		
Elbow	Flexion	Decreasing the angle between the upper and lower arm	
	Extension	Increasing the angle between the upper and lower arm	
Hips		Bringing the leg forward, reducing the angle between the femur and the front of the body (sagittal plane)	
	Extension		
	Hyperextension		
	Abduction		
	Adduction		

5. On the images below, name the planes of movement (A–C) and axes of ro



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6. Define the terms ‘agonist’ and ‘antagonist’ muscles.

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Section B: Apply your knowledge

1. Fill in the gaps in the table, either identifying the movement being comple
movement is completed in, or by giving a sporting example of the movem

Movement	Plane	Axis
Extension of the elbow	Sagittal	Transverse
Flexion of the elbow		
Extension of the shoulder		
Flexion of the shoulder		Transverse
	Frontal	
		Sagittal
	Transverse	Longitudinal
Horizontal abduction of the shoulder	Transverse	Longitudinal
Plantar flexion of the ankle		
Dorsiflexion of the ankle	Sagittal	
Flexion of the hips		
Extension of the hips		
	Frontal	Sagittal
Adduction of the hips	Frontal	Sagittal
	Transverse	Longitudinal
Horizontal abduction of the hips		
Flexion of the knee		
Extension of the knee		

2. For the sporting examples below, identify the agonistic and antagonistic n
joints and the corresponding muscle contractions.

(a)

Flexion of the knee

Agonist:

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Antagonist:

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Muscle contraction:

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Articulating b...s

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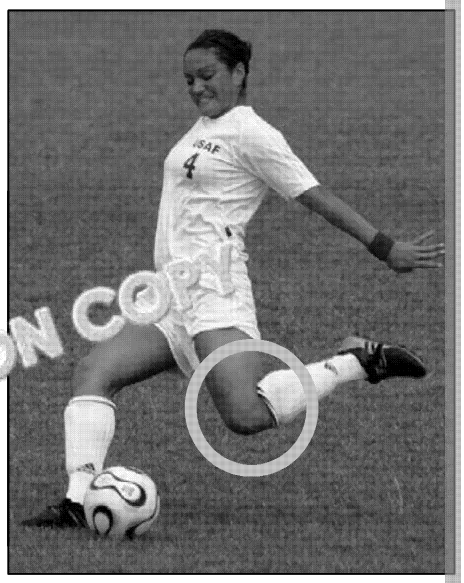

(b)

Flexion of the elbow

Agonist:

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Antagonist:

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Muscle contraction:

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Articulating bones:

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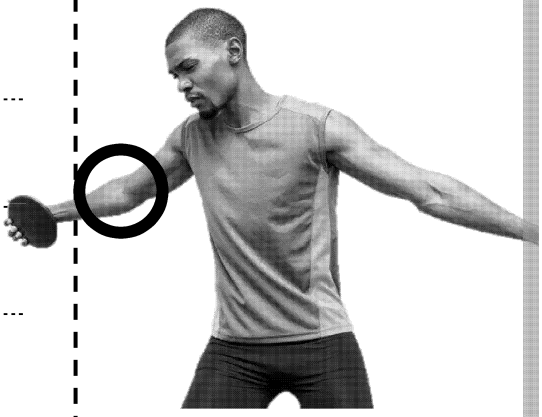


3. Identify the muscular contractions taking pla... during the following sport

(i) A rugby scrum that is ... ing (quadriceps group) .....

(ii) L...eri... ...-bell (biceps brachii).....

(iii) ...tion phase basketball shot (triceps brachii).....

Section C: Analyse and Evaluate

1. Perform a movement analysis on the right leg of the cyclist below during t
phases of the pedal.

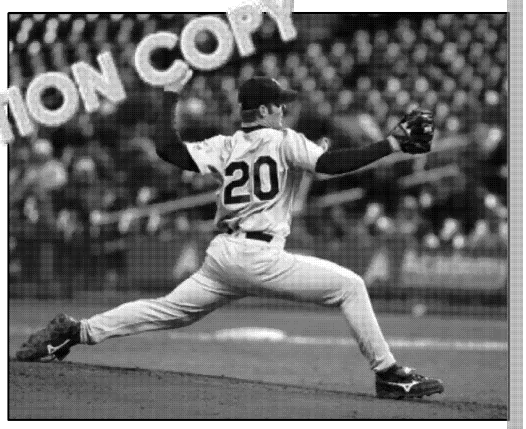
Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Outline the role of antagonistic muscles.

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

1. A baseball pitcher is in the execution phase of a throw. Name the movem
(throwing) shoulder, the agonistic muscle responsible for the movement,
occurring in.



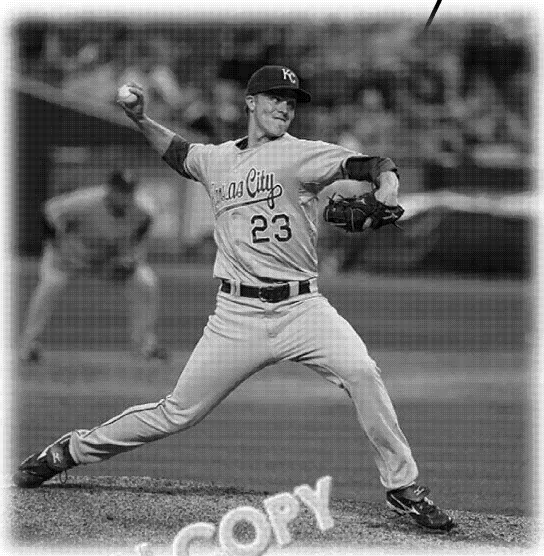
Topic 4: Skill Classifications, Learning, Methods and Types

Knowledge Checklist

Characteristics of skills
Classifying skills on continua: difficulty, environmental, pacing, muscular involvement, continuity and organisation
Types of skill transfer: positive, negative, zero and bilateral
Impact of transfer of skills on skill development
Methods of presenting practice: whole, progressive part and whole-part-whole
Types of practice: massed, distributed, variable and mental

Section A: Demonstrate Your Knowledge

1. Annotate the image below with as many characteristics of skills you can th



2. For each of the six skill continua below, briefly describe how skills are clas
of the following.

Skill continuum	Descriptio
1. Difficulty	
2. Environmental	
3. Pacing	
4. Muscular involvement	
5. Continuity	
6. nisation	

3. Describe what is meant by 'positive transfer' of a skill.

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4. Describe what is meant by 'negative transfer' of a skill.

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5. Describe what is meant by 'zero transfer' of a skill.

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6. Describe what is meant by 'bilateral transfer'.

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Section B: Apply Your Knowledge

1. For each of the skill continua, name the skill classifications within each co
of each skill classification and provide a sporting example of each skill typ

Skill continuum	Skill classification	Characteristics
Difficulty		
Environmental		
Pacing		
Muscular involvement		
Continuity		
Organisation		

2. Identify either the type of practice or method of presenting practices desc
descriptions of the given types. Then, for each type and method of practi
that could be practised using it.

Type or method of practice	Description
	The skill is practised from the start point to the end point with no breaks in the movement.
Progressive part practice	
Mental practice	
	The environment is manipulated to allow a skill to be practised in numerous competitive situations.
Whole-part-whole practice	
Massed practice	
Distributed practice	

Section C: Analyse and Evaluate

1. Using sporting examples, discuss why coaches will use different types and methods of practice for teaching different skills.

2. Describe and explain the strategies a coach or player could use to maximise transfer of skills, limiting negative transfer and optimising positive transfer.

Exam-style Questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and S

1. Classify a triple jump using:
   - environmental continuum (open–closed)
   - continuity continuum (discrete–serial–continuous)

   Justify your answers.

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

1. Outline the terms **positive transfer** and **negative transfer** and, using exam
   transfer of skill learning.

Topic 5: Principles and Theorie

Knowledge Checklist

The three stages of learning and their characteristics: cognitive, associative and autonomous
Learning plateaux: causes and solutions
Cognitive theory of learning (insight learning)
Behaviourism (operant conditioning)
Social learning theory (observational learning)
Constructivism (social development theory)
Impact of the theories of learning on skill develop[illegible]

Section A: Demonstrate Your Knowledge

1. Des[illegible]hat is meant by a 'learning plateau'.

   .....

   .....

   .....

2. List six possible causes of a learning plateau occurring to a performer.

   a) .....

   b) .....

   c) .....

   d) .....

   e) .....

   f) .....

3. Name the three processes associated with operant conditioning, provide a processes and then suggest the effect on the stimulus response bond (S-R

Operant conditioning response	Descripti[illegible]	Ef

4. Explain how Thorndike's laws of operant conditioning can help strengther

Law of exercise: .....

.....

Law of effect: .....

.....

5. Draw an image to identify each of the four stages of Bandura's theory of

(i)

Stage:

(ii)

Stage:

(iii)

Stage:

(iv)

Stage:

6. Briefly describe 'social development theory' (constructivism) as hypothesi

.....

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.....

7. Complete the table to identify the main characteristics of the three stages

Characteristics	Stages of learning	
	Cognitive	**Associative**

8. Name and outline two branches of the cognitive theory of learning.

(i) .....

.....

.....

.....

(ii) .....

.....

.....

.....

Section B: Apply Your Knowledge

1. Imagine you are a gymnastics coach. A gymnast has come to you worried anymore. You have also noticed that their performances seem to have pl

   Fill in the plan below with a brief description of the possible solutions you athlete's learning plateau.

Performance Improvement Plan

A gymnast that I coach has come to me worried that they are not making any further improvements recently. I have also noticed this. The following points are options available to me, to overcome the gymnast's learning plateau.

1. .....
2. ❑ .....
3. ❑ .....
4. ❑ .....
5. ❑ .....
6. ❑ .....
7. ❑ .....

2. Give an example of a coach giving the following types of reinforcement:

Positive reinforcement .....

.....

.....

Negative reinforcement .....

.....

.....

Pur nt .....

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.....

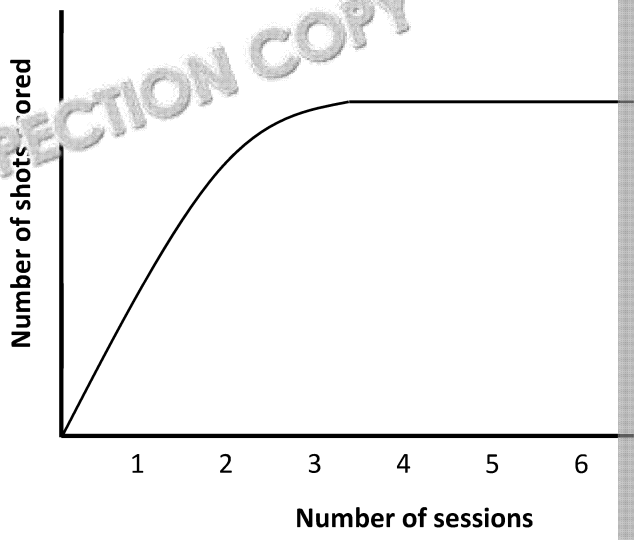
Section C: Analyse and Evaluate

1. Using a sporting example, explain Bandura's theory of observational learn

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. The figure below shows an athlete's performance levels over time.



Using the information, identify what happened between sessions 4 and 6, may have occurred.

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

2. High-level performers are classified as **autonomous** learners.

State **two** characteristics of a performer in the autonomous stage of learn

Topic 6: Use of Guidance and

Knowledge Checklist

Types and uses of guidance: verbal, visual, manual and mechanical
The advantages and disadvantages of different types of guidance
Types and uses of feedback: knowledge of performance, knowledge of results, positive, negative, intrinsic and extrinsic
The advantages and disadvantages of types of feedback
The impact of feedback and guidance on skill development

Section A: Demonstrate Your Knowledge

1. Name each of the [illegible] of feedback and give one keyword that helps t

(i) Keyword: .....

(ii) Keyword: .....

(iii) Keyword: .....

(iv) Keyword: .....

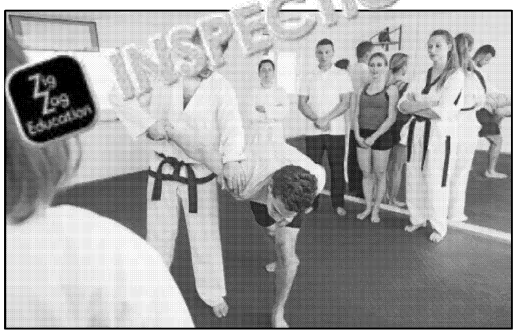
(v) Keyword: .....

(vi) Keyword: .....

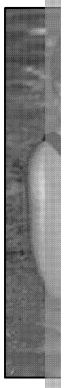
2. Identify the guidance method being demonstrated by the images below.

(i) .....

(ii) .....



(iii) .....



(iv) .....

Section B: Apply Your Knowledge

1. Name the four types of guidance used in sport and draw an image to repr
choice.

Guidance method: .....

Guidance method

Guidance method: .....

Guidance method

2. Annotate the image of the netball players below to describe different typ
during the game.

Section C: Analyse and Evaluate

1. Using sporting examples, analyse the use of the four types of guidance.

2. Discuss how a coach would use the different types of feedback for athlete

Exam-style questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and S

1. Justify why a coach may use mechanical guidance for a beginner athlete in

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

1. Which one of the following statements defines intrinsic feedback?

   (a) The feeling of 'butterflies' in the stomach before competition

   (b) Receiving information and feedback from sources external to your bo

   (c) Information regarding performance originating from within your own

   (d) When a parent shouts encouragement from the sidelines

Topic 7: Emergence of Globalisa
the Twenty-first Cent

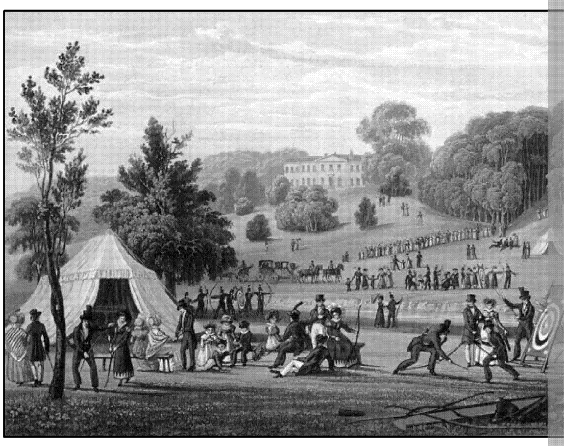
A: Pre-industrial (Pre-1780)

Knowledge Checklist

The characteristics of sport in pre-industrial Britain
The characteristics of popular and rational recreation in pre-industrial Britain
The influence that characteristics of pre-industrial life had on sport

Section A: Demonstrate Knowledge

1. Ann[illegible] th[illegible] to identify and briefly outline the characteristics of p[illegible] Brit[illegible]e has been done for you.



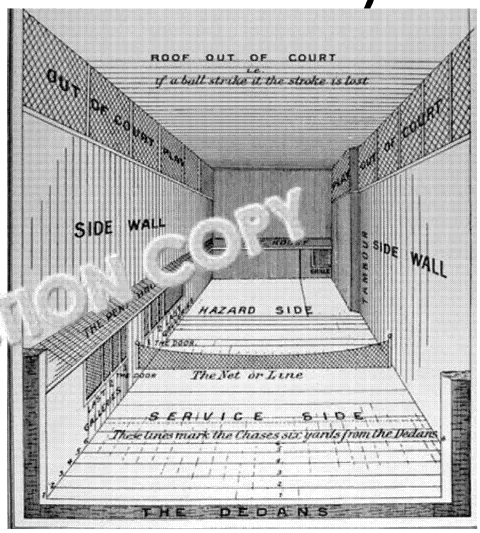
2. Describe the difference between the two social classes during pre-industr
recreational pastimes differed.

Upper class (aristocracy)	Low

Section B: Apply your knowledge

1. Annotate the following two sports to explain how mob football and real t
characteristics of sport in pre-industrial Britain.

Mob Football



Real tennis (court)

Section C: Analyse and Evaluate

1. Analyse the impact education had on participation in sport during pre-ind

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Describe the term **popular recreation**.

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

1. Mob football was a popular pastime in pre-industrial Britain.

   Identify **two** characteristics of popular recreation in pre-industrial Britain.

Topic 7: Emergence of Globalisat
the Twenty-first Cent

B: Industrial and Post-industrial (17

Knowledge Checklist

The characteristics of industrial and post-industrial life and the influence these h sport
The effects of the Industrial Revolution on sport in indu[illegible]and post-industrial
The effects of urbanisation on sport in industri[illegible]ost-industrial Britain
The effects of transport and comm[illegible]n sport in industrial and post-indus Britain
The effects of the B[illegible]re on sport in industrial and post-industrial Britain
The infl[illegible]of [illegible]y provision on sport in industrial and post-industrial Brita
The infl[illegible]f the Church and local authorities on sport in industrial and post-industrial Britain
The development of national governing bodies (NGBs)
The effects of gender status on sports participation in industrial and post-indust Britain
Social class: amateurism and professionalism

Section A: Demonstrate Your Knowledge

1. In post-industrial Britain, how did the structure of social classes change?

.....

.....

2. (i) Define an *amateur* and give some characteristics of amateur athletes

.....

.....

.....

.....

(ii) Define a *professional* [illegible]me characteristics of professional at

.....

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3. Outline the negative impact that the Industrial Revolution had on sports p

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4. Describe how availability of ti[illegible]d changing working conditions affecte industrial Britai

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5. Describe how the availability of money affected sports participation in po

.....

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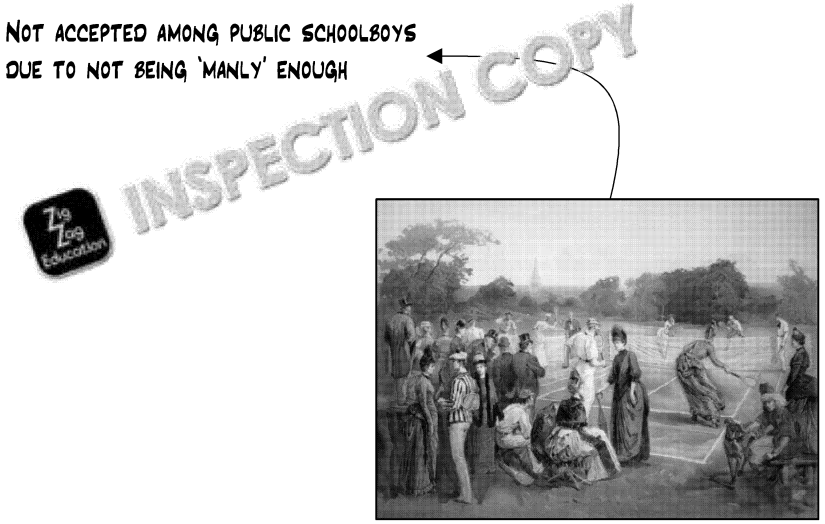
Section B: Apply Your Knowledge

1. Complete the table below, identifying the characteristics of rational recre
the reasons for the emergence of these characteristics.

Characteristic of rational recreation	Reason for the emer

2. Annotate the image below to describe how lawn tennis reflected the char
education/literacy. One has been done for you.



3. Transport and communication significantly improved in post-industrial Bri
advancement and describe its effect on sports participation, alongside im

.....

.....

.....

.....

.....

.....

4. Using the example of the Foot[illegible]iation (FA) to help you, describe t
formation of national [illegible]erni[illegible]g bodies in sport. One has been done for y

V[illegible]E SPORTS TEAMS (E.G. FACTORY TEAMS) WERE EMERGING

5. Identify the characteristics of popular recreation and athletics that were d
Olympian Games.

1. .....
2. .....
3. .....
4. .....

6. Des[illegible]ho[illegible]i[illegible]anisation, brought about by the Industrial Revolution, co
ass[illegible] football.

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7. Identify and describe two individuals who helped spread the developmen
Empire.

i) Individual: .....

How: .....

.....

ii) Individual: .....

How: .....

.....

Se... C: Analyse and Evaluate

1. Discuss the influence of public schools on sports participation in post-indu
Empire.

2. Discuss the influence of the Church (local authorities) on sport in post-ind

Exam-style Questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and S

1. Which of the following is a characteristic of rational recreation?

(a) Controlled wagering

(b) Unwritten or simple rules

(c) Irregular

(d) Local

A Level Paper 1: Fac... A...ecting Participation in Physical Activity and Sp...

1. Du... lus... a... and post-industrial Britain, participation in sport rapidly

Sugg... three reasons for the increase in sports participation in industrial

Topic 7: Emergence of Globalisat the Twenty-first Centu

C: Post World War II (1950–prese

Knowledge Checklist

Characteristics of life in post-war Britain and the impact on sport
Amateurism and professionalism in post-war Britain to the present day
The golden triangle: the relationship between commercialisation, media and sp
The emergence of women in sporting roles: as players and officials

Section A: Demonstrate Your Knowledge

1. How did amateur and professional statuses change in sport during the tw

   ....

   ....

   ....

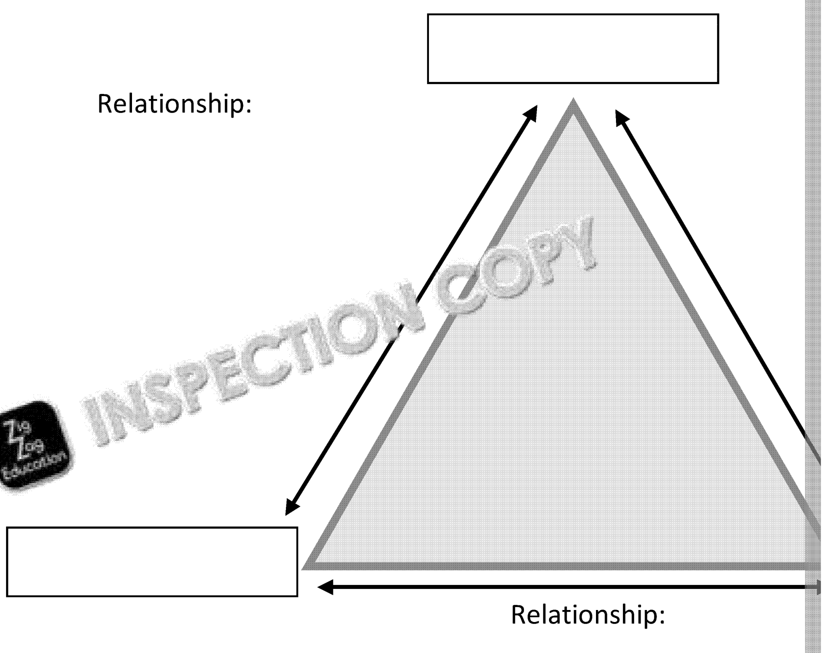
   ....

2. Define *globalisation*.

   ....

   ....

3. Label the three components of the golden triangle and outline the relatio



Section B: Apply Your Knowledge

1. Explain the reasons for an increase in the number of women participating officials.

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2. Explain how amateurism and professionalism have changed in twenty-firs similarities with pre-twenty-first-century sport?

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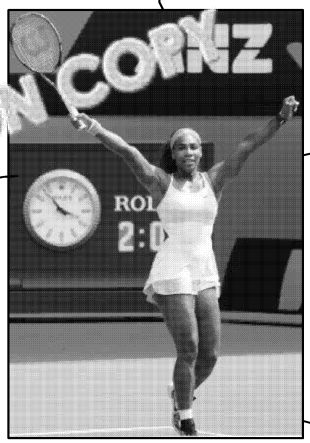
3. The image below shows women working in 1918. Explain how and why g
century Britain and the effect this had on sport.

4. There has been a significant shift in the status of women in sport in the tw
describe the changes in the status of women in sport, using Serena Willia

WOMEN ARE NOW SEEN AS EQUAL TO MEN.



Section C: Analyse and Evaluate

1. In recent years, women have experienced a positive shift in their involve

   Suggest ways in which women's participation has been limited in the twe
   headings:
   - **Stereotyping/discrimination**
   - **Participation rates**

2. Evaluate the development of athletics in twentieth- and twenty-first-cent
   developments had on female participation in athletics.

Exam-style Questions

AS Leve 1 Factors Affecting Participation in Physical Activity and

1. Commercialisation has had a massive impact on sport.

   Explain the benefits that athletes competing in athletics have received as

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

1. Outline the terms 'amateur' and 'professional' in post World War II Britai
   amateurism and professionalism influenced sport during this time period.

Topic 8: Sociological Theory Ap
Opportunities

Knowledge Checklist

Define key terms and understand their impact on equal opportunities and sport participation: society, socialisation, social processes, social issues, social structures/stratification, equal opportunities, discrimination, stereotyping and prejudice
The relationship between social issues and sport: social action theory and the interactionist approach
Barriers to participation in sport and potential solutions for under-represented groups in sport: disability, ethnicity, gender and disadvantaged people
Benefits of increasing participation in sport: health, social and fitness benefits
The relationship between Sport England and local/national partners in increasing participation in sport

Section A: Demonstrate Your Knowledge

1. Define the following key terms:

Society:

.....

.....

Socialisation:

.....

.....

Social processes:

.....

.....

Social issues:

.....

.....

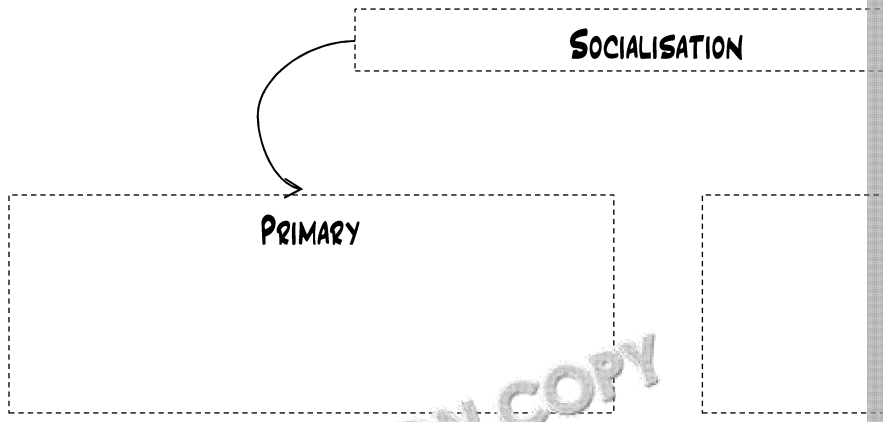
Social structures/stratification:

.....

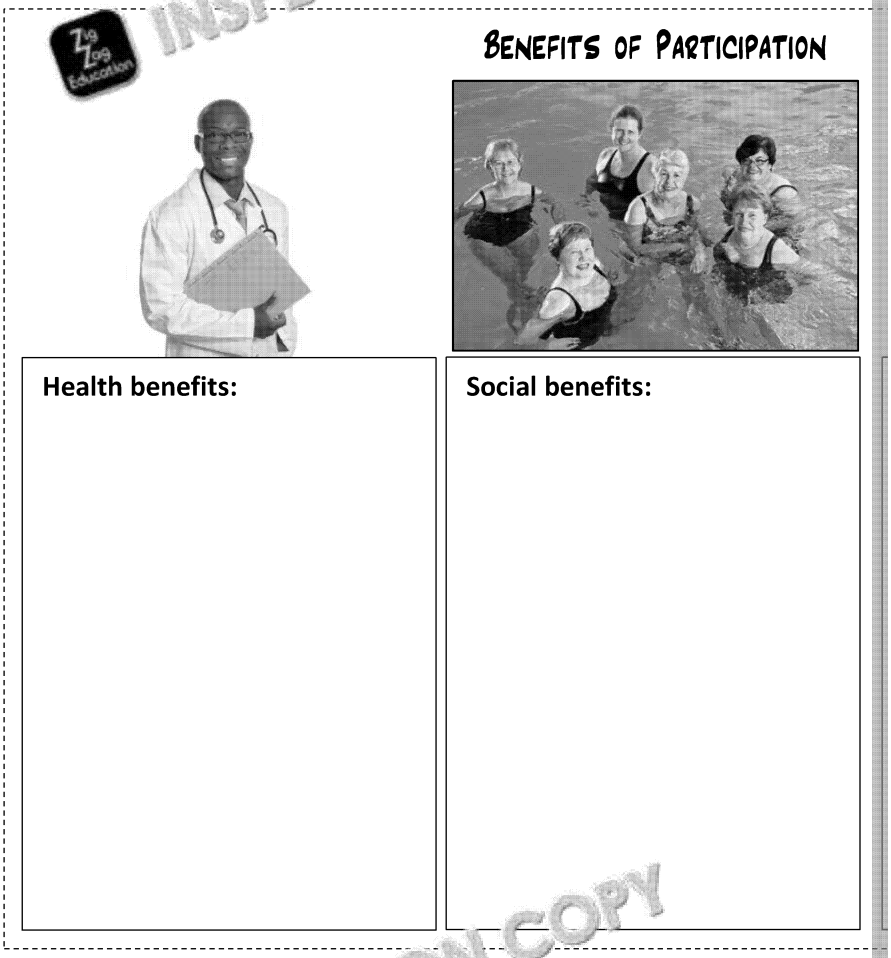
.....

.....

2. Describe the difference between primary socialisation and secondary soci



3. Identify the health, social and fitness benefits of participating in sport and



4. Outline the role of Sport England, local partners and national partners p
fro grass-roots level upwards

Sport England: .....

.....

Local partners: .....

.....

National partners: .....

.....

National governing bodies (NGBs): .....

.....

Section B: Apply Your Knowledge

1. Social processes dictate how the 'norms' of a soci[illegible]re established and [illegible] example, describe the terms **social contro[illegible]** and **social change**.

Social control:

.....

.....

.....

.....

Social change:

.....

.....

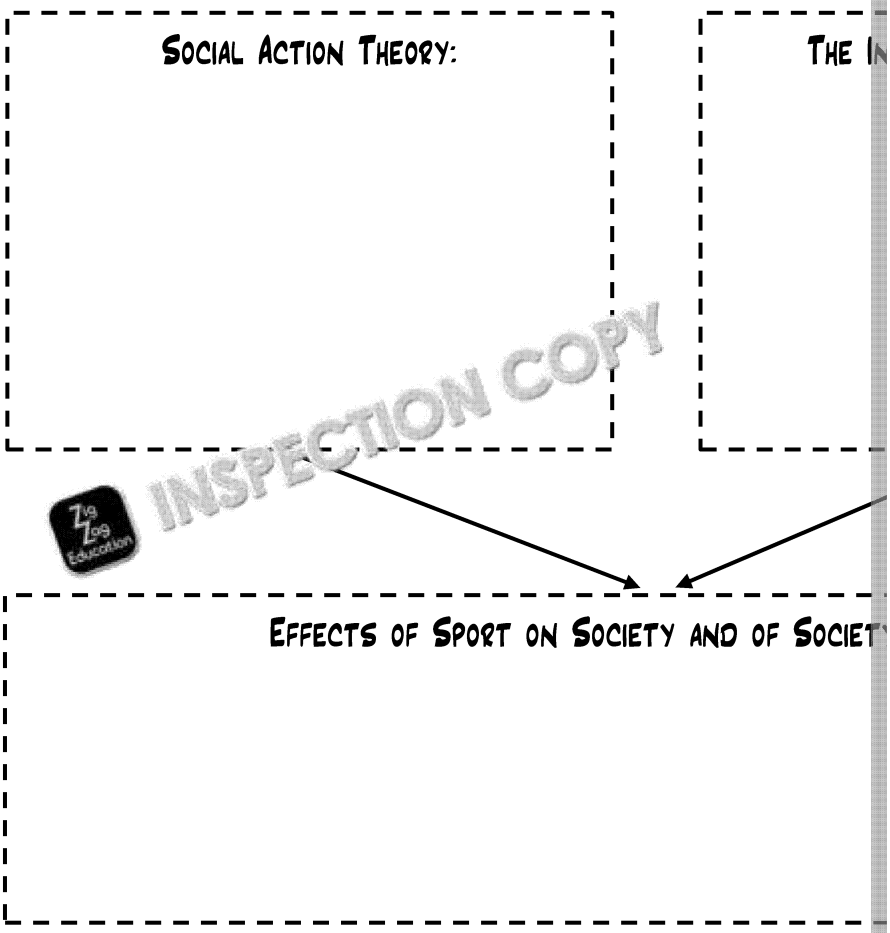
.....

.....

2. Identify the possible causes of inequality in sport and explain the consequ[illegible]

Reasons for inequality	

3. Fill in the flow chart below, describing **social action theory** and the **intera** the effects of sport on society and of society on sport.



4. Define the following terms and give an example of how they may present

Equal opportunities: .....

.....

e.g. .....

Discrimination: .....

.....

e.g. .....

Stereotyping: .....

.....

e.g. .....

Prejudice: .....

.....

e.g. .....

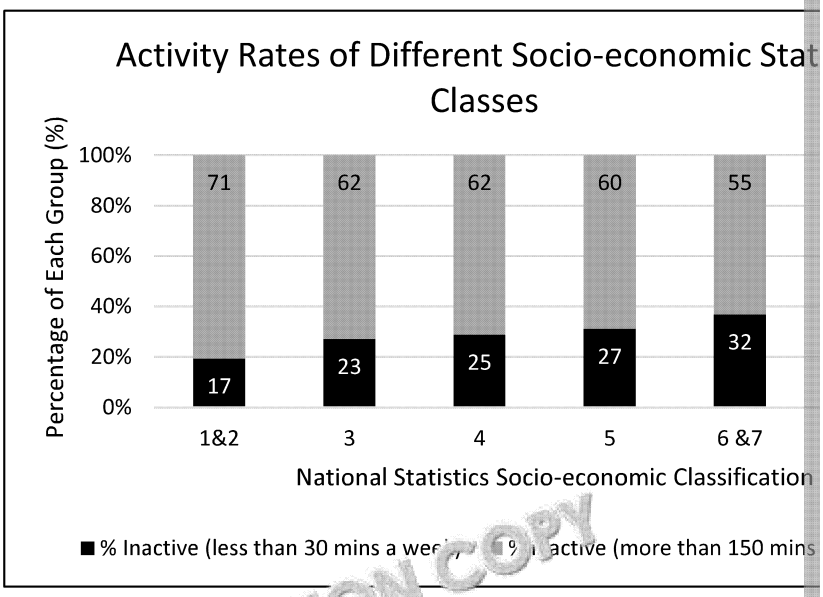
Section C: Analyse and Evaluate

1. Copy and complete the table below that shows four under-represented g
   - Identify why they may be under-represented in sport (the barriers).
   - Suggest some possible solutions to each of the barriers you identify.
   - Name a national partner that works alongside Sport England to help identified.

Group	Barriers	Solutions
Disabled athletes		
Ethnic groups (race, religion or culture)		
Gender		
Di taged (socio-eco nic status)		

2. The graph (below) provides information on the inactivity and activity leve on their socio-economic status.

   (i) Using the information on the graph provided, analyse the impact of s participation rates.



Key of Na St tistics Socio-economic Classification (NS-SE

1 managerial, administrative and professional occupat
2 Lower managerial, administrative and professional occupat
3 Intermediate occupations
4 Small employers and own account workers
5 Lower supervisory and technical occupations
6 Semi-routine occupations
7 Routine occupations
8 Never worked and long-term unemployed

Exam-style Questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and S

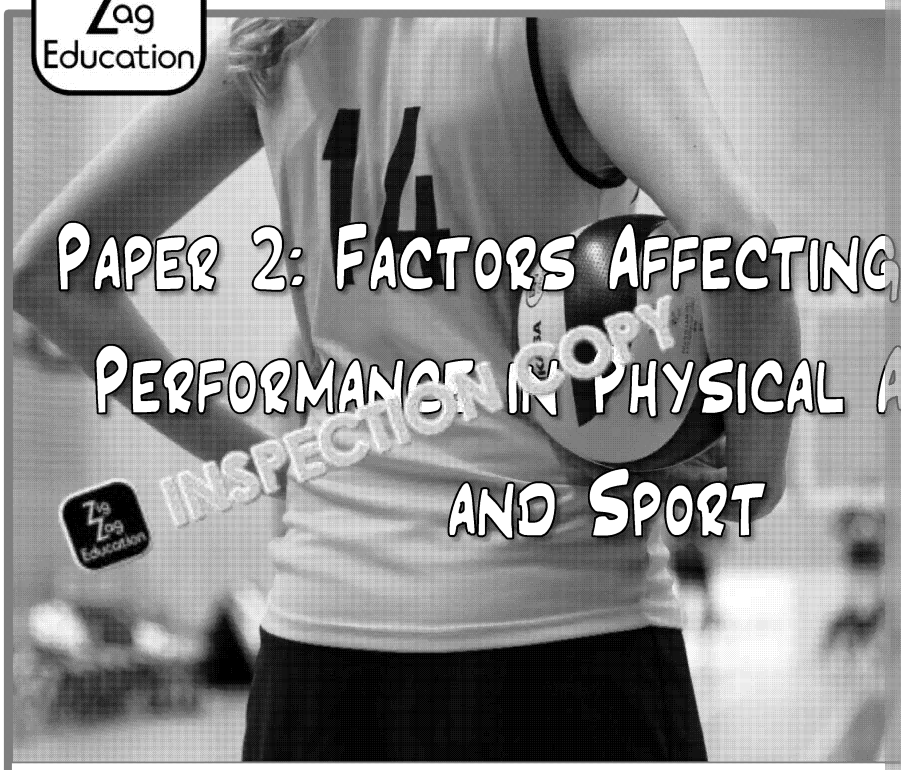
1. Many groups of people are under-represented in sport, meaning that thei
   much lower than they should be.
   - Asian women – only 26.1% of the population meet the recommende
   - Muslim women – have low physical activity participation rates of 25.
   - Black, Asian and minority ethnic (BAME) – of all board positions in sp
     by people from BAME populations

   Evaluate the reasons for ethnic groups (race, religion and culture) being u
   possible solutions to these issues.

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

1. Sport England's Active Lives survey indicates that 51% of individuals with
   impairments/disabilities are inactive compared with 21% of those without

   Explain the importance of identifying barriers to disabled populations, and
   used by Sport England and national and local partners to increase particip
   disabilities.



Active Revision Works

For AS / A Level (Year 1) AQA

Topic 9: Diet and Nutrition for P

Knowledge Checklist

Key components of a healthy, balanced diet and their function in sport and exe carbohydrates, fibre, fats, vitamins, minerals and hydration
Energy balance
Nutritional supplements and strategies used to aid performance (creatine, sodi bicarbonate, caffeine and glycogen loading)
The positives and negatives of using supplements
Hydration in sport and physical activity

Section A: Demonstrate Your Knowledge

1. Below each description, write the correct component of diet that is being sa ve

1. Main source of energy for the body

_____

2. Aids tissue repair, helping recovery and muscle hypertrophy

_____

3. Aids dig

_____

5. Helps to prevent dehydration and can help to regulate temperature and heart rate

_____

6. Micronutrients with multifunctional roles – includes sodium (regulates blood pressure), iron (helps oxygen transport) and calcium (strong bones)

_____

8. Used for insulation

_____

9. Can be used to 'load' in the days prior to endurance events

_____

10. Is often take supplement f following we training at the

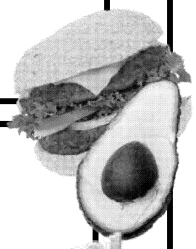
_____

2. Write down the seven components of h alt balanced diet and then lis found in the diet.

Component of	Dietary sou

3. Describe each of the three types of fat below.

Trans fat:



Saturated fat:

4. What is the differ…een fat-soluble vitamins and water-soluble vit…

…

…

…

…

…

…

5. Describe what is meant by 'glycogen loading' and provide two benefits of…

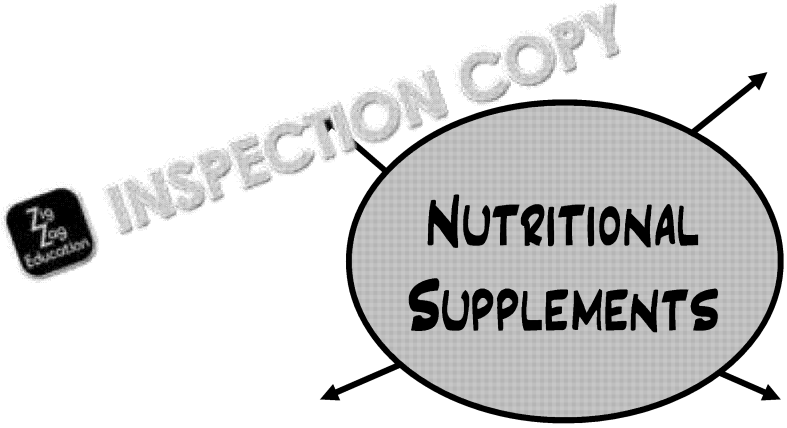
…

…

…

…

6. Name the dietary supplements or methods available to athletes in sport.



Section B: Apply Your Knowledge

1. Describe the exercise-related role of each of the following vitamins and m

Vitamin C: .....

.....

Vitamin D: .....

.....

Vitamin B12: .....

.....

B-complex vi... .....

.....

Sodium: .....

.....

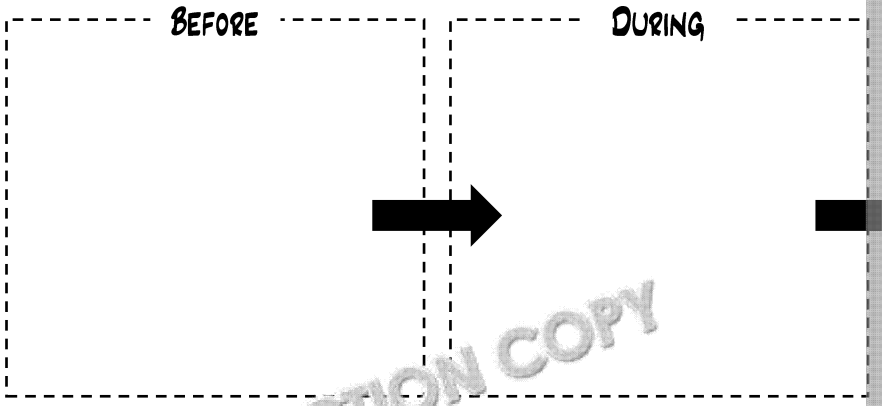
Iron: .....

.....

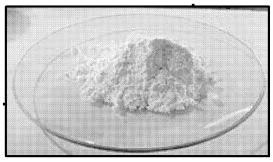
Calcium: .....

.....

2. Describe an athlete's ideal diet plan before, during and after competition, and recovery.



3. Name the nutritional supplements available to athletes and describe the r
them, and the type of athletes that may use them.

Supplement	Benefits to performance and reasons why
	
	
	

4. Explain the importance of hydration for a marathon runner.

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5. Describe how a long-distance cyclist would perform carbohydrate loading
how it supports their performance during competition.

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Section C: Analyse and Evaluate

1. Evaluate the positive and negative impacts that nutritional supplements h
level, such as the Olympic Games.

2. Evaluate the importance of hydration for performance in sport.

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. State the exercise-related role of protein in the diet.

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

1. Evaluate the use of carbohydrate loading to improve performance in relat

Topic 10: Preparation and Traini
Improve and Maintain Physical
Performance

A: Principles of Training and Training

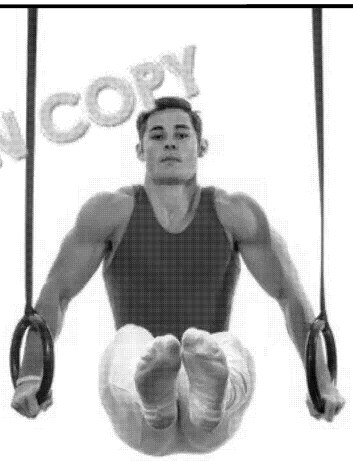
Knowledge Checklist

Types of strength: endurance, maximum, explosive/elastic, static and dynamic
Principles of training (SPORR and FITT)
Training methods used in sport and physical ac

Section A: Demonstrate Your Knowledge

1. Fill i able to define the different components of physical fitness.

Component of fitness	Definition
Aerobic endurance	
Anaerobic power	
Muscular endurance	
Muscular strength	
Flexibility	



2. Define ‘sets’ and ‘repetitions’ in relation to weight (strength) training.

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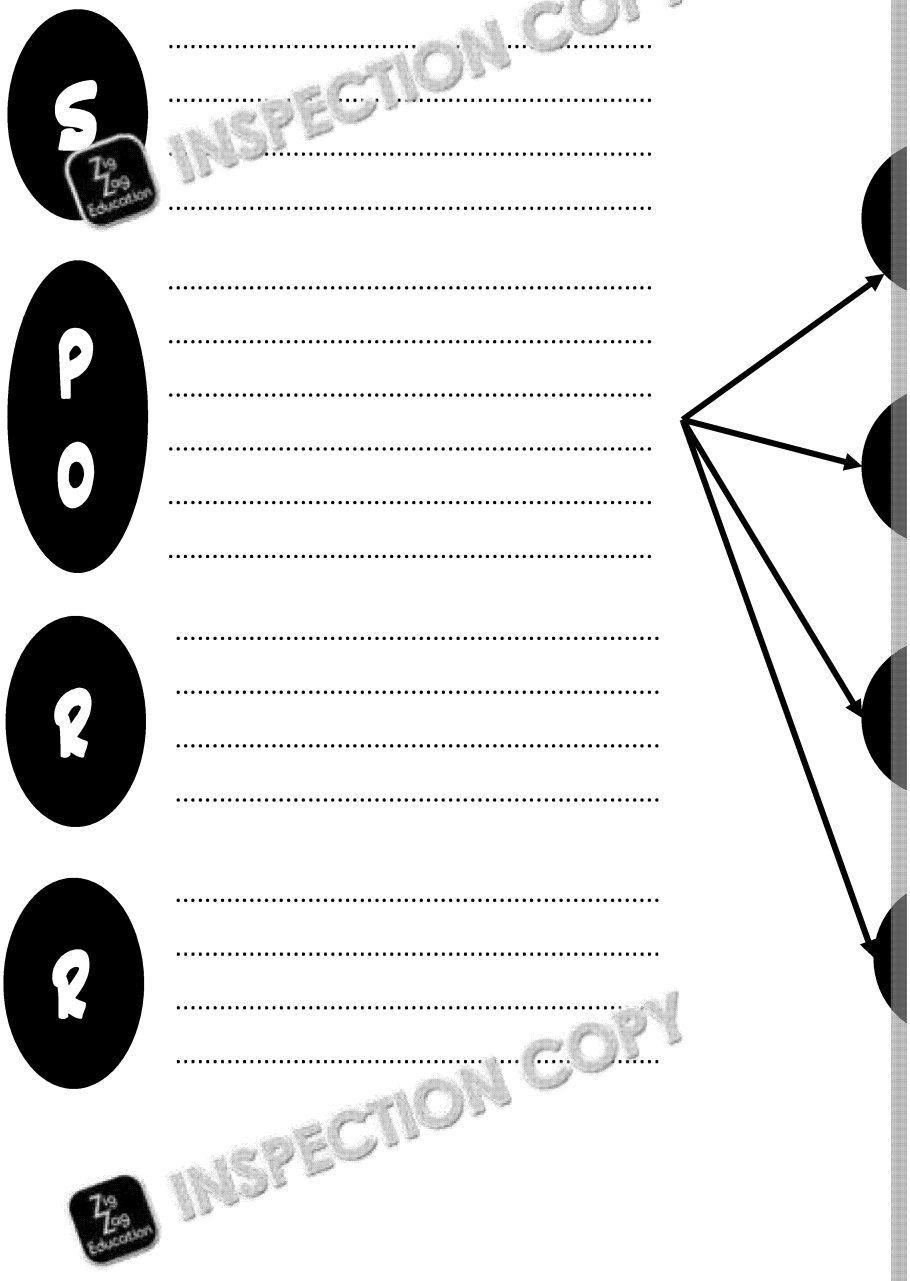
3. Name and describe the principles of training (SPORR and FITT).



4. Outline each of the training methods listed below, to complete the inform

Interval training

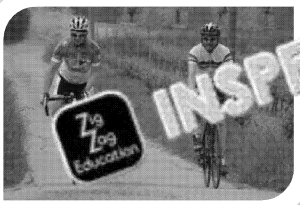
What it is: .....

.....

.....

Component of fitness it trains:

Continuous training



What it is: .....

.....

.....

Component of fitness it trains:

Fartlek training

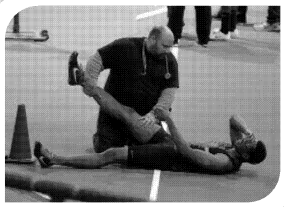
What it is: .....

.....

.....

Component of fitness it trains:

Proprioceptive neuromuscular facilitation (PNF) training



What it is: .....

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Component of fitness it trains:

Circuit training

What it is: .....

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.....

Component of fitness it trains:

Section B: Apply Your Knowledge

1. Sally was recently inspired by the Olympic weightlifters and has just begu her muscular strength. Her personal trainer leads her through a session.

   (i) Note down the main rules Sally's personal trainer will apply to her tra number of sets, reps and how they will apply the principles of trainin strength.

   (ii) Sally's friend is now also interested in weight training, but wants to i Outline what adaptations would need to be made to Sally's training p for training muscular endurance.

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2. Keirin is a type of track cycling event that involves a motorbike that increa
final lap where cyclists sprint to win the race. Athletes continue to adjust

Justify whether fartlek training would be an appropriate training method

.....

.....

.....

3. Fill in the table below, identifying sport(s) that would benefit from each tr
your answers.

Training Method	Sport(s) that would use the training method	
Continuous training		
Fartlek training		
Circuit training		
Interval training		
Weight training		
Proprioceptive neuromuscular facilitation (PNF)		

Section C: Analyse and Evaluate

1. Evaluate the effectiveness of circuit training for a team sport of your choi
that should be made when planning a training programme that includes c

2. Discuss why an athlete would want to complete flexibility training, based
adaptations that occur as a result of training.

Exam-style Questions

AS Level Paper 1: *Factors Affecting P[illegible]pation in Physical Activity and S*

1. Explain three reasons [illegible] an endurance athlete would use circuit training

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

1. State how using the FITT principle can help an athlete optimise their perfo

Topic 10: Preparation and Traini
Improve and Maintain Physical
Performance

8: Key Data Terms, Warm-ups, Cool-downs A

Knowledge Checklist

Scientific terminology used in fitness testing
Warm-ups and cool-downs and the use of stretching
The use of periodisation cycles
Phases of training: preparatory, competitive and transi
The use of tapering and peaking to optimise p rm nce

Section A: Demonstrate Your Knowledge

1. Def icrocycle, a mesocycle and a macrocycle.

.....

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2. A macrocycle is made up of three phases. Order the phases and provide a

1. .....

.....

2. .....

.....

3. .....

.....

3. Define the terms *validity* and *reliability* with regard to fitness testing.

Validity: .....

.....

Reliability: .....

.....

4. Ou e three main components of a warm-up.

.....

.....

.....

.....

.....

.....

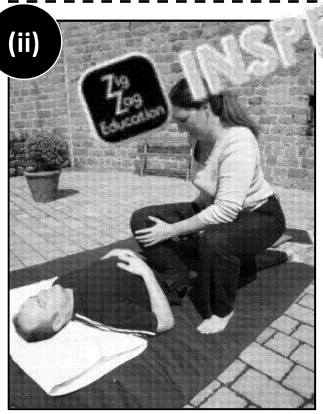
Section B: Apply your knowledge

1. Identify the types of stretch being shown by the images below, and state
   use this stretch, justifying your reasons.

Type of stretch:

Sport/performer:

(ii)



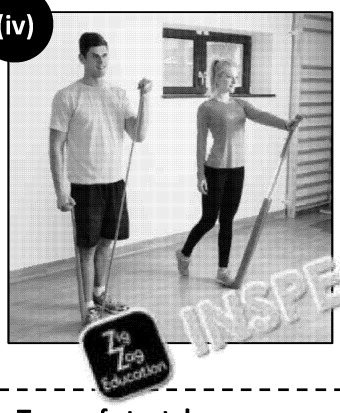
Type of stretch:

Sport/performer:

Type of stretch:

Sport/performer:

(iv)



Type of stretch:

Sport/performer:

Type of stretch:

Sport/performer:

2. Read the following statements and tick whether the statements are refer
qualitative data and whether the data is objective or subjective.

a. I work for a professional football club as a sports scientist. Recently, I collected the times of the athletes' 30 m sprints.

Qualitative ❑ **or** quantitative ❑

Objective ❑ **or** subjective ❑

b. I perfo
tests o
the tes
to rate
a scale
10 (ver

Qualitative ❑

Objective ❑

c. I perform r... l a...ysis
or... ...ayer I am
...ing. I noted that, in my opinion, she is advancing very well.

Qualitative ❑ **or** quantitative ❑

Objective ❑ **or** subjective ❑

d. An athlete aske
they were prog
rehabilitation. I
based on the ju
test, in which th
higher than last
gradually becor
powerful and a

Qualitative ❑

Objective ❑

3. How would an endurance athlete use the process of tapering leading up t
chance for an excellent performance to occur (peaking)?

.....

.....

.....

.....

4. How would a shot-putter use the process of taperi... leading up to a comp
an excellent performance to occur (peaki...)?

.....

.....

.....

.....

5. In the template below, identify the stages of a suitable warm-up for a foo activities that could be completed in each stage and then state the physio athlete.

Stage	Example
1.	
2.	
3.	

6. Describe the reasons why an athlete would complete a cool-down followi

....

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Section C: Analyse and Evaluate

1. Using your knowledge of periodisation and phases of training, explain ho throughout their season and evaluate the importance of these principles f

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Define the term *subjective data.*

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

1. Athletes will always attempt to complete a suitable warm-up before comp

   Explain how the physiological responses from a warm-up can optimise pe

Topic 11: Biomechanical Princip
Systems

Knowledge Checklist

Newton's laws: inertia, acceleration and action/reaction
Key terms, equations and units: net force, balanced force, unbalanced force, weight, reaction, speed and distance
Centre of mass
Lever systems in the body
Factors affecting stability in sport and physical activity

Section A: Demonstrate Your Knowledge

1. Def[illegible] Newton's three laws of motion.

   (i) .....

   (ii) .....

   (iii) .....

2. Provide equations for force, weight, acceleration, speed and distance.

   (i) Force (N) = ...

   (ii) Weight (N) = ...

   (iii) Acceleration (m/s^2) = ...

   (iv) Speed (m/s) = ...

   (v) Distance (m) = ...

3. In the table provided, define the key terms.

Key term	Definition
Net force	
Balanced force	
Unbalanced force	
Weight	
Reaction	
Speed	
Distance	

4. Define what is meant by the term 'centre of mass'.

.....

.....

5. Draw the three lever systems, including the fulcrum, effort, load, effort ar

(a) First-class lever

(b) Second-class lever

(c) Third-class lever

Section B: Apply Your Knowledge

1. For each of Newton's three laws, give a sporting example to help explain i

Newton's law	Scenario
Newton's first law	
Newton's second law	
Newton's third law	

2. Acceleration due to gravity is approximately 9.8 m/s^2. Calculate the weig who has a mass of 118 kg.

.....

.....

.....

.....

.....

3. On the following image, mark the approximate centre of mass.

4. For the two types of lever system below, explain using sporting examples advantage or disadvantage and the benefit of this in your chosen example

Second-class lever system: .....

.....

.....

.....

Third-class lever system: .....

.....

.....

.....

5. For the following sporting examples, identify the type of lever system in u

(i) Extension of the neck as a swimmer leans back and pushes off from t

.....

.....

(ii) Hamstring curls (lying [illegible])

.....

.....

(iii) A rugby player completing a push-up

.....

.....

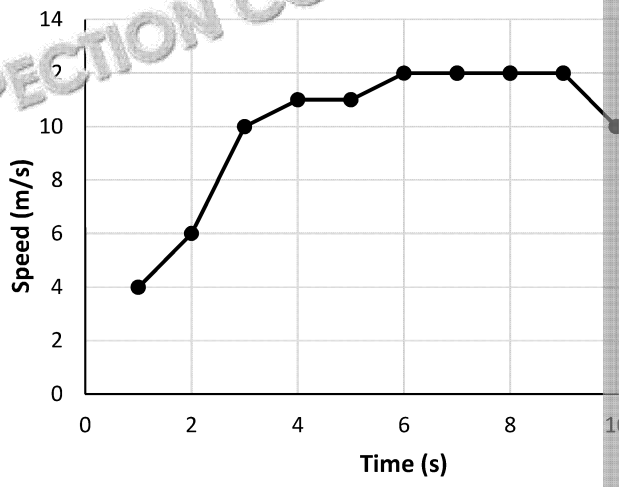
Section C: Analyse and Evaluate

1. Discuss how a boxer can maximise their stability in the ring.

Exam-style Questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and S

1. Using the speed–time history graph of a 100 m sprinter, calculate the dist
   sixth and ninth seconds of the race.



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

1. Using Newton's first and second laws, describe how movement of a hocke

Topic 12: Psychological Factors Physical Activity

A: Aspects of Personality, Attitudes, Motivation A

Knowledge Checklist

Nature vs nurture debate: trait theory and social learning theory
Interactionist perspective and its influence on performance: Hollander and Lewi
The components of an attitude (triadic model): cognitive, affective and behavio
Methods of attitude change: persuasive communica[illegible] and cognitive dissonanc
Understand the differences between, and uses of, intrinsic and extrinsic motivat
Social facilitation and social inhibition (Zajonc's model)
Strategies to minimise the negative influences of social inhibition and social facilitation
Evaluation of comprehension

Section A: Demonstrate Your Knowledge

1. Define what is meant by a *trait*.

   Trait: .....

   .....

   .....

2. Outline the nature vs nurture debate.

   .....

   .....

   .....

   .....

   .....

   .....

   .....

3. Complete the sentences below to outline *trait theory*, *social learning* and

   (i) Trait theory suggests that behaviour is a .....

   (ii) Social learning theory suggests that behaviour is a .....

   (iii) Interactionist personality suggests that behaviour is a .....

4. What is meant by the term 'attitude'?

.....

.....

5. Define 'motivation' and state the two types of motivation.

Definition: .....

.....

Two types of motivation are: ..... an

6. Draw two emojis/icons to represent 'tangible rewards' and 'intangible rew

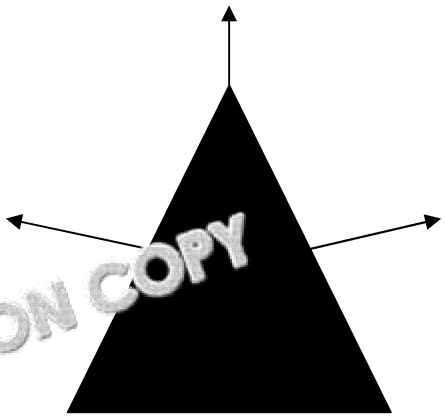
Tangible rewards	Intangible rewards

7. Outline the difference between 'social inhibition' and 'social facilitation'.

.....

.....

8. Name and describe the three components that make up the triadic model



9. Name and describe the four factors that influence the formation of an att

(i) .....

.....

(ii) .....

.....

(iii) .....

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(iv) .....

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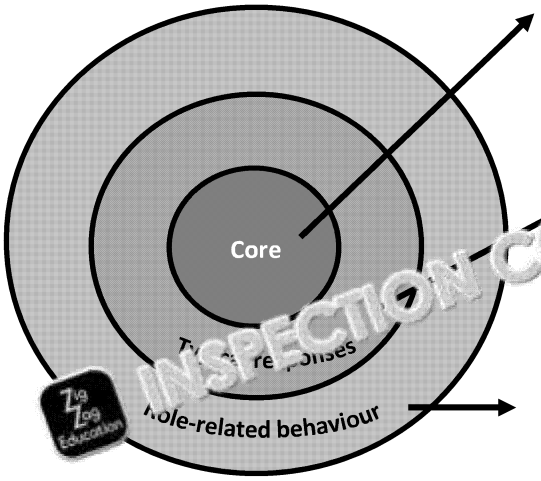
Section B: Apply Your Knowledge

1. Using a footballer as an example, describe Hollander's model of the intera
figure below.



1. **Core:**

2. **Typical responses:**

3. **Role-related behavi**

2. A rugby coach has identified a player who he believes has tendencies to d
the potential to get sent off.

   Using knowledge of the interactionist perspective, describe three strategi
maximise performance from the player.

   (i) .....

   .....

   .....

   (ii) .....

   .....

   .....

   (iii) .....

   .....

   .....

3. Describe 'evaluation apprehension' and e[illegible] w it affects performanc

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4. Describe and explain four factors that influence the formation of attitudes participation in sport.

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5. Des ntrinsic motivation' and give sporting examples of how a player bene performance.

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6. Describe 'extrinsic motivation' and give sporting examples of how a player benefit performance.

.....

.....

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.....

7. Describe and explain the effects an audience has on complex, simple, fine

Complex skills

Fine skills

8. A young boy does not want to play rugby because he thinks it is too rough with the demands of the sport.

Describe two methods a coach could use to change his attitude towards r

(1) .....

.....

.....

.....

(2) .....

.....

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Section C: Analyse and Evaluate

1. Explain the impact an audience has on different personalities and perform
   Then, assess the strategies an athletics coach can use to minimise the adv

2. Using sporting examples, suggest how a coach could use knowledge of the
   improve player performance.

3. Copy and complete the table below, naming the four types of people iden
   presence during sporting events. Then, identify whether they are 'passive
   effect they can have on sporting performance and give a sporting example

Types of People	Passive / Interactive	Effect of an audience on performance of complex skills for novice athletes	Eff au perf simp elit

Exam-Style Questions

AS Level Paper 1: Factors Affecting Participation in Physical Activity and

1. The presence of spectators can impact on the performance of players on

   Outline the terms 'social facilitation' and 'social inhibition' and explain ho
   performance. Use examples in your answer.

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

1. Evaluate how different types of motivation can be used by athletes to opt
   sports event, such as the 100 m sprint.

Topic 12: Psychological Factors Physical Activity

B: Arousal, Anxiety and Aggres

Knowledge Checklist

Theories of arousal and their influence on performance: drive theory, inverted-U theory and catastrophe theory
Zones of optimal functioning and peak flow experience
Types of anxiety: somatic, cognitive, competitive trait and competitive state
Measuring anxiety: observations, questionnaires and physiological measures
Advantages and disadvantages of methods to measure anxiety: observations, questionnaires and physiological measures
Aggression and assertive behaviour
Theories of aggression: instinct, social learning, frustration–aggression and aggression
Strategies to control anxiety

Section A: Demonstrate Your Knowledge

1. Define 'arousal', 'anxiety' and 'aggression'.

Arousal: .....

.....

.....

Anxiety: .....

.....

.....

Aggression: .....

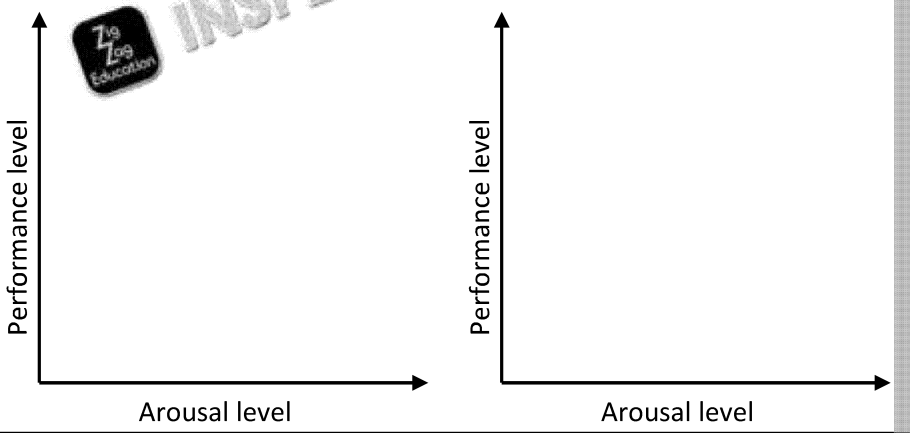
.....

.....

2. Name the three theories of arousal and draw and annotate three graphs t

Theory: .....

Theory: .....



3. Describe 'competitive state anxiety' and 'competitive trait anxiety'.

.....

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.....

.....

.....

4. Describe 'aggression' and 'assertion'.

Aggression:

Assertion:

5. Name four theories concerning the causes of aggression.

(i) .....

(ii) .....

(iii) .....

(iv) .....

Section B: Apply your knowledge

1. Using sporting examples explain the following theories of arousal:

   (i) **Drive theory**

   .....

   .....

   .....

   .....

   .....

   (ii) **Catastrophe the**

   .....

   .....

   .....

   .....

   .....

2. Describe the inverted-U theory in relation to a novice rugby player's perfo

   .....

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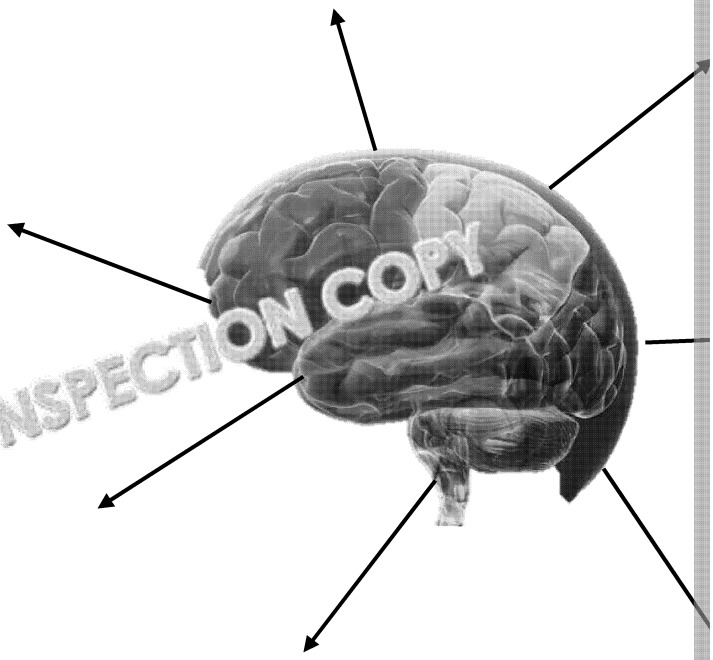
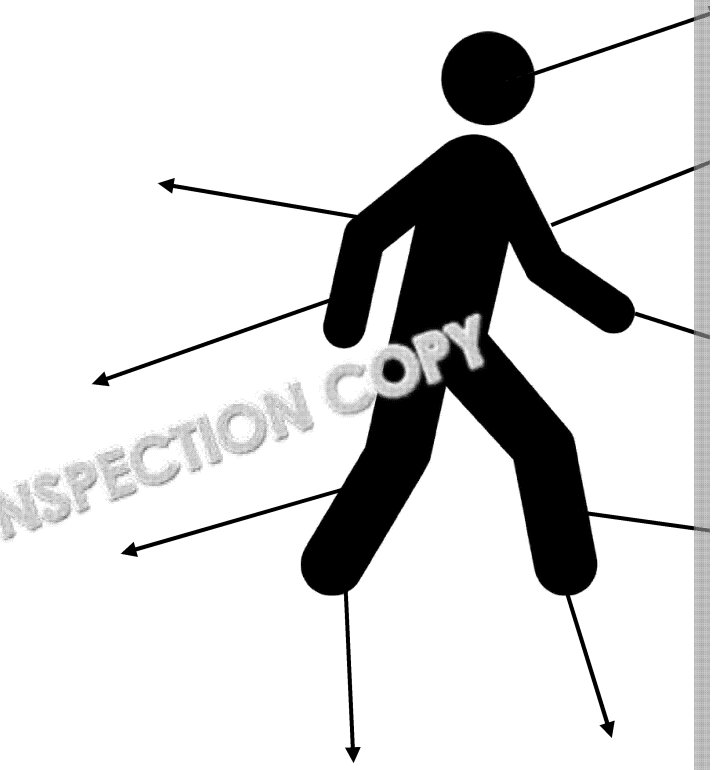
   .....

3. Identify the symptoms of cognitive and somatic anxiety an athlete may ex
performance.





4. Using examples, explain what is meant by the term *zones of optimal funct*
characteristics of peak flow experience.

Zones of optimal functioning:.....

.....

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.....

.....

.....

Characteristics: .....

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.....

.....

5. For the following images, identify whether aggression or assertion is bein

(i) .....

(ii) .....

(iii) .....

6. Annotate the image with as many strategies as you can think of to help co
has been completed for you.

Section C: Analyse and Evaluate

1. Using sporting examples, evaluate the approaches of different theories of
for aggression in sport.

2. Provide one criticism of the theory of zones of optimal functioning.

3. Evaluate the benefits and limitations of *observations*, *questionnaires* and
and monitor anxiety levels in athletes.

Exam-style Questions

AS Level Paper 1: *Fact... ...ting Participation in Physical Activity and*

1. Outli... ...he ... ...cory of arousal.

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

1. Using a sporting example, identify the characteristics of peak flow experie

Topic 12: Psychological Factors Physical Activity

C: Group Dynamics and Goal-setting

Knowledge Checklist

Stages of group formation: forming, storming, norming and performing
Task and social cohesion
Steiner's model of group effectiveness
Ringelmann effect and social loafing
Strategies to improve cohesion
Types and benefits of goal-setting: outcome goals, task-orientated goals, performance-related goals and process goals
Use of the SMARTER principle: specific, measurable, achievable, realistic, time-bound, exciting and redo

Section A: Demonstrate Your Knowledge

1. What is a group?

.....

.....

2. What is the difference between task cohesion and social cohesion?

.....

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.....

.....

3. In the spaces below, name the stages of group formation, as proposed by
then provide a description of each stage.

1.	2.	3.

Group Formation

4. Provide an equation to represent Steiner's model of group effectiveness,
explain what *faulty processes* are.

Equation:.....

.....

Faulty processes are: .....

.....

.....

5. Describe the Ringelmann effect and social loafing.

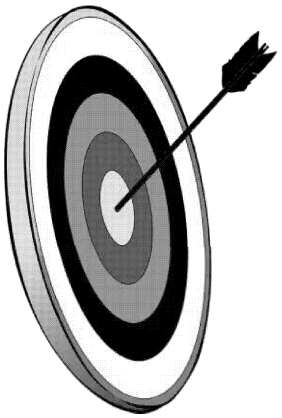
The Ringelmann effect is .....

.....

Social loafing is:.....

.....

6. Give five reasons why athletes and coaches use goal-setting.



1. .....
2. .....
3. .....
4. .....
5. .....

7. Identify the SMARTER principle of goal-setting below and briefly describe

S .....
.....

M .....
.....

A .....
.....

R .....
.....

T .....
.....

E .....
.....

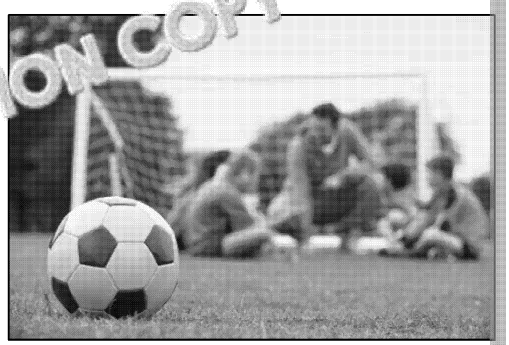
R .....
.....

Section B: Apply Your Knowledge

1. List the benefits of goal-setting and then, using sporting examples, descri

Benefits of Goal-Setting	
Task-orientated Goals	Performance-related Goals

2. Annotate the image with examples of how a coach could reduce social lo athletes; for example, a player in a football team.



3. Using a tennis player as an example, give examples of how the SMARTER pri
applied.

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Section C: Analyse and Evaluate

1. A coach has recently taken charge of a team that is struggling for consiste
of group formation, discuss how the coach could build team cohesion and
have on the performance of the team.

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. Which one of the following statements lists the cor t order of group for

   (a) Forming, norming, storming, perfor ng

   (b) Performing, storming f rming

   (c) Performin g, storming, forming

   (d) ng, storming, norming, performing

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

1. Many elite athletes are provided with effective goals by their coaches.

   Discuss how effective goal-setting can improve performance.

Topic 13: The Role of Technolo
Activity and Sport

Knowledge Checklist

Key terms in sports technology: quantitative, qualitative, objective, subjective, validity and reliability
The use of video analysis programmes in sport
The use of metabolic carts for indirect calorimetry
GPS and motion tracking software
Data integrity in sports testing

Section A: Demonstrate Your Knowledge

1. Defi following key terms.

Quantitative data:

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Qualitative data:

.....

.....

Objective:

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.....

Subjective:

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.....

Validity:

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Reliability:

.....

.....

2. Outline the reasons why a coach or athlete may use video analysis progra
improve performance.

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.....

Section B: Apply Your Knowledge

1. Give examples of how the following may be displayed in sport and fitness

Term	Example in sport
Quantitative data	
Qualitative data	
Objective data	
Subjective data	
Validity	
Reliability	

2. Name a piece of equipment that could be used by long-distance runners t
inspired and expired during exercise.

.....

3. Create a leaflet below that could be handed out in a sports research facili
data integrity may be hindered and any strategies to prevent this.

Data integrity: The problems and how to maintain this in yo

The issues:	The strategies to improve th

Section C: Analyse and Evaluate

1. Evaluate the effectiveness of using a metabolic cart for indirect calorimetr

2. Using examples, explain the reasons why GPS and motion tracking softwa
performance in sport.

Exam-style Questions

AS Level Paper 1: *Factors Affecting Participation in Physical Activity and S*

1. During fitness testing it is important that tests are valid and reliable.

   Define the terms **validity** and **reliability**.

A Level Paper 2: *Factors Affecting Optim[illegible]erformance in Physical Activity*

1. State how technology [illegible] be used to optimise data integrity when collect

Active Revision Works

For AS / A Level (Year 1) AQA P

Answers

Topic 1: Cardiorespiratory Sys

A: Cardiovascular System

Section A:

1. 1 = Aorta
   2 = Pulmonary artery
   3 = Left atrium
   4 = Tricuspid valve
   5 = (Inferior) vena cava
   6 = Left ventricle

2. (i) Heart rate – the number of times a heart beats in one minute
   (ii) Stroke volume – the amount of blood ejected from the left ventricle of the h
   (ii) Cardiac output – the amount of blood ejected from the heart in one minute

3. • When the atria release blood into the ventricl… …unar valves stop the b… the aorta or pulmonary veins.
   • Semilunar valves also stop ba…k… …blood into the aorta.

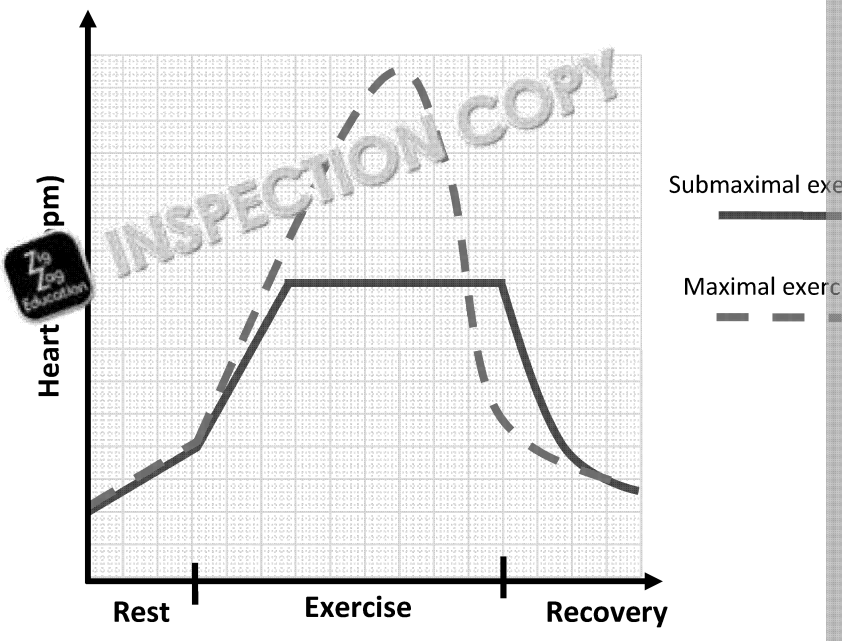
4. • Systole is the … …pushing blood around the body to the locations it is
   • …vir… …ole, the ventricles are filled with blood.
   • …ctrical signal from the heart's conduction system causes the ventricles
   • …e contraction increases the pressure inside the ventricles, opening the se… towards the lungs (pulmonary artery) and to the body tissues (aorta).

5. Correct order and descriptions:
   1. **Sino-atrial node (SA node)** – the pacemaker of the heart, it regulates the he… demands and sending out electrical impulses when necessary, to contract th…
   2. **Atrioventricular node (AV node)** – the impulse arrives at the AV node, whic… until they are filled with blood. The impulse is then sent onwards to the bur…
   3. **The bundle of His** – The bundle of His is a mass of conduction cells which sp… branches to reach both sides of the heart. The bundle of His is made of Purk…
   4. **Purkinje fibres** – these line the ventricular walls and the electrical impulse sent t…

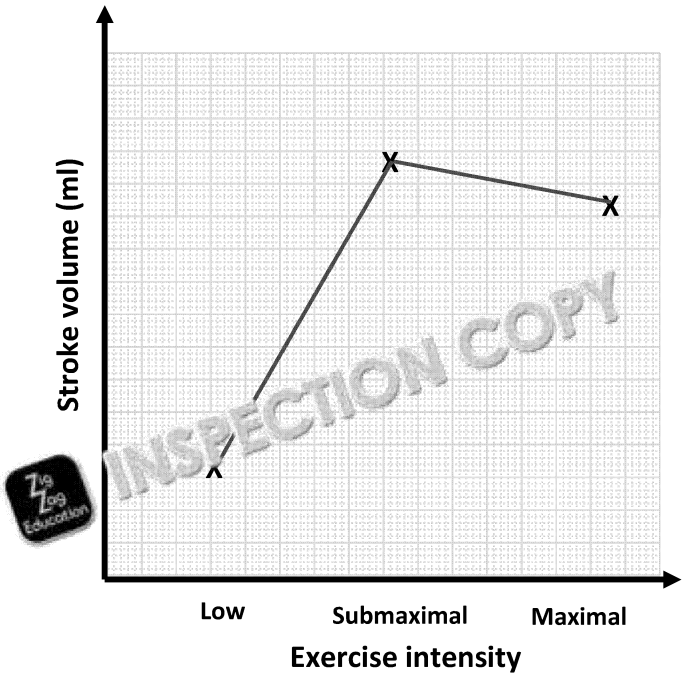
6. The correct statements that should be circled are:
   • The vasomotor centre regulates blood flow.
   • The vascular shunt mechanism controls the amount of blood needed during … forcing blood to the working skeletal muscles.
   • Vasodilation of arteries leading to the working skeletal muscle occurs.
   • Vasoconstriction of arteries leading to organs such as the kidneys and stom…
   • More oxygen is transported to myoglobin in the muscle cells.

7. (i) Maximal line to show: anticipatory line, steep increase in heart rate, rising a… decline, once exercise stops, leading into a slower decline. Similar to:

z



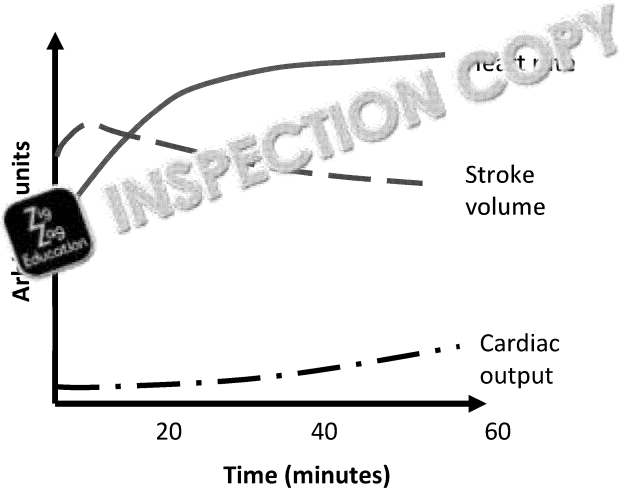
(ii) Graphs should show a significant increase between low-intensity exercise ar
volume should then drop from submaximal to maximal intensity (a decrease
an increase in heart rate).



(iii)
- Cardiac output at rest – the same
- Cardiac output at submaximal exercise – trained (higher)
- Cardiac output at maximal exercise – trained (higher)

8.
- Venous return is the rate at which blood is returned to the heart from the b
- Pocket valves: valves in blood vessels only allow blood to flow in one directio
- Muscle pump: blood can be squeezed through the vascular system by skelet
- Respiratory pump: during respiration, changes in pressure of the thoracic ca
blood back to the heart.
- Gravity: blood that is above the heart is aided back to the heart with help fr
- Smooth muscle: veins can constrict and narrow to force blood back in the di
- High blood pressure helps to push blood around the body and back to the h
diastolic = when the heart is relaxed). Therefore, when blood pressure incre
when blood pressure decreases, venous return decreases.

9. The graph should look like the one below.



10. • A-VO_2 diff is the difference in oxygen content of arterial blood transported t
the oxygen content of blood in the veins that are transporting blood away fr
• At rest it is low, and during exercise it is high, due to the muscles using more

11. **Stroke**
• (Outline) Caused when the brain is starved of a blood supply.
• (Effect of physical activity) Keeping healthy through exercise increases blood
brain from being starved of oxygen.

Cholesterol
• (Outline) Can be split into low-density and high-density lipids (LDL and HDH)
• (Outline) High amounts of this can cause a hardening and narrowing of bloo
• (Effect of physical activity) Physical activity helps to increase the amount of
decreases the amount of low-density lipoprotein [illegible] prevents a build-up

High blood pressure
• (Outline) Also called hyper[illegible] can cause serious heart problems.
• (Outline) Is measured by systolic pressure and diastolic pressure.
• (Effect of physical activity) Physical activity helps to keep blood vessels flexib
[illegible]. As such, the pressure exerted by the blood on the walls of blood ves

Heart disease
• (Outline) Caused by a build-up of fats in the arteries surrounding the cardiac
• (Outline) Is a broad term that can cover health complications such as heart a
• (Effect of physical activity) Exercise keeps the cardiac muscle strong and hea
which will remain flexible, allowing blood to pass easily through vessels.

Section B:

1. Ensure students show their calculations and identify the correct units of measure
a. At rest, cardiac output (CO) = 64 × 70 = 4480 ml/min (or 4.48 l/min)
b. Submaximal exercise CO = 100 × 110 = 11 000 ml/min (or 11 l/min)
c. High intensity exercise CO = 180 × 160 = 28 000 ml/min (or 2.8 l/min)

2. • As the fight progresses in intensity and length, more blood will be needed to
• During exercise, cardiac output, heart rate and stroke volume increase to m
rate and cardiac output remain high during recovery.
• Increase in blood flow maintains performance by providing the working skel
reducing fatigue (i.e. removing lactate and carbon dioxide).
• The vascular shunt mechanism forces blood to the areas of the body that most n
• The vasomotor centre of the boxer would control redistribution of blood by
arteries based on organ needs.
• During a fight, the boxer would not need as much blood at their stomach, so
vasoconstrict, reducing the blood flow.
• More blood is needed at the skeletal muscles to provide energy. Therefore,
vasodilate, to increase blood flow to muscle cells.
• Arterioles can widen or narrow to control the direction of blood flow and re
• Pre-capillary sphincters – as capillaries are the blood vessels that surround
sphincters control which cells receive blood flow and therefore, oxygenate
• During recovery following the fight, venous return remains high providing a
sufficient deoxygenated blood to be returned to the heart to be oxygenated

3. • Starling's law states that as venous return increases, the amount of blood pu
[illegible]tion) also increases.
• During exercise, the runner's venous return increases as more deoxygenate
muscle tissues to the heart and lungs, to be oxygenated again, to allow spor
• Increased venous return means the heart is filled with more blood during di
a greater volume of blood to enter the heart.
• Because the heart has been stretched, a greater force of contraction is requ
pump blood out of the heart.
• A greater volume is pumped out of the heart as a result, causing an increase
• A greater ejection fraction means the runner can compete for longer as mor
per heartbeat, allowing oxygen to be delivered to the working muscle cells a

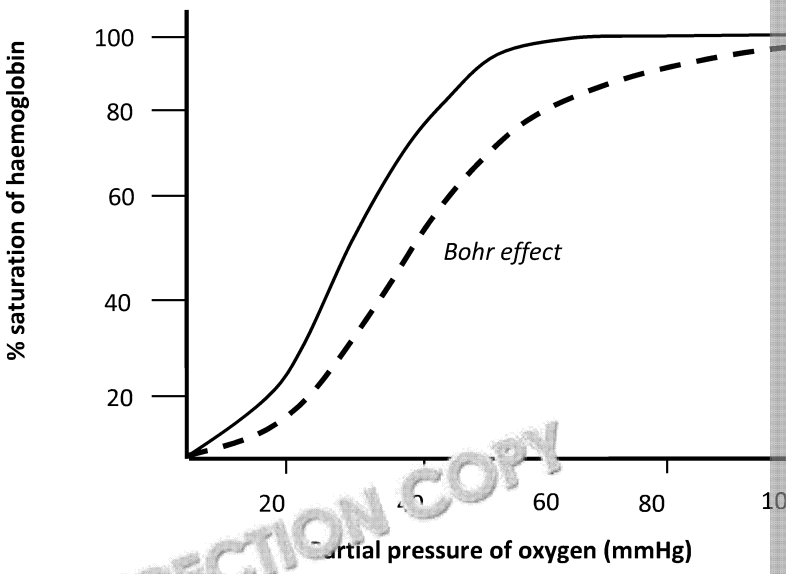
4.
- During prolonged steady-state exercise, such as rowing, stroke volume will p the exercise continues.
- This is because a loss of fluids through sweating causes the viscosity (thickne volume of blood plasma to decrease, meaning that it cannot pass as easily th volume of blood that can be ejected from the heart per beat (stroke volume
- To compensate for a decreased stroke volume and to maintain or increase t rate is increased. Therefore, the heart pumps out less blood per beat, but is
- This allows cardiac output to be maintained or increased, allowing the rowe without fatigue.

5. **Untrained**
- Untrained athletes will have an increase in a-VO_2 diff during exercise to prov exercise.
- Their a-VO_2 diff will, however, be smaller than trained athletes because thei transferring oxygen from the blood to muscle cells, meaning more oxygen is
  - This limits their performance as their body is not efficient at gaseous ex in earlier than trained athletes.

Trai
- d athletes will have a significant increase in a-VO_2 diff during exercise.
- As a result of training, trained athletes are far more efficient at transferring cells. This means (leading to a greater a-VO_2 diff):
  - More oxygenated blood is carried from the heart in the arteries (to the proportion of oxygen is transferred to the muscle cells.
  - More oxygen is used at the muscle cells so the volume of oxygen prese

6. (a) The oxyhaemoglobin disassociation graph shows the relationship between o partial pressure of oxygen.

(b)



(c) Th... nt is the movement of the line on the graph to the right.
... shows the result of an increase in blood acidity.
It suggests that oxygen is less willing to bind to haemoglobin at low pH

Section C:

1. Answers should include links to a relevant sporting example.
    - Heart rate is regulated by the automatic nervous system (ANS).
    - The cardiac control centre (CCC) located in the medulla oblongata of the brain to change the heart rate, such as messages stating that the triathlete needs m
    - Heart rate is increased via the sympathetic nervous system, by releasing adr will help to provide more blood to the triathlete's working muscle cells.
    - Heart rate is decreased via the parasympathetic nervous system to inhibit ch help a triathlete reduce their heart rate during a period of lower-intensity w

    Neural and chemical factors during exercise:
    - The vasomotor centre responds to changes in blood pressure, acidity levels
    - Chemoreceptors are located in the aortic arch and the carotid arteries.
    - Chemoreceptors detect increased CO_2 and lactic acid levels, e.g. a triathlete dioxide and lactic acid in their blood towards the end of a race due to aerob
    - Baroreceptors detect increased stretch on blood vessel walls, e.g. during a r constrict to aid blood flow back to the heart, increasing blood pressure.
    - Proprioceptors in the musculoskeletal system (tendons, muscles, joints) mo triathlete moving their legs and arms during the swim stage.
    - Impulses from receptors are sent to the CCC to increase heart rate via the sy
    - Venous return increases, causing the stretch reflex of ventricles, increasing s increased pressure of blood returning to heart increasing venous return lead contraction (increasing stoke volume). This allows more blood to be pumpe the triathlete with more oxygenated blood.
    - Heart rate, stroke volume and cardiac output is increased (SV × HR = CO).

    Hormonal factors:
    - Adrenaline and noradrenaline are released from the adrenal gland into the b heart rate (and, therefore, blood flow) during exercise.
    - The release of adrenaline prior to performance is called the anticipatory rise prior to exercise. This allows the triathlete to increase their blood flow befo
    - Noradrenaline is released in response to stressful situations, e.g. the anxiety
    - Noradrenaline and adrenaline stimulate the SA node (via the sympathetic ne activity (increasing heart rate).

Exam-style Questions:

AS Level Paper 1:

1. 1 mark for each of the following. Correct units must be given in answer.
    - (Heart rate) 130 bpm × (Stroke volume) 120 ml/beat (AO2)
    - (Cardiac output) 15.6 l/min (AO3). Must show units.

A Level Paper 1:

1. Maximum 2 marks from the following:
    - The vasomotor centre regulates blood flow (AO1)
    - The vascular shunt mechanism controls the amount of blood needed during
    - Vasodilation of arteries leading to the working skeletal muscle occurs (AO1)
    - Vasoconstriction of arteries leading to organs such as the kidneys and stoma
    - More oxygen is transported to myoglobin in the muscle cells (AO1)

Topic 1: Cardiorespiratory Sys

8: Respiratory System

Section A:

1. (i) Tidal volume – the volume of air inhaled or exhaled during each breath

   (ii) Minute ventilation – the volume of air inspired or expired per minute

   (iii) Residual volume – the volume of air remaining in the lungs following maxim

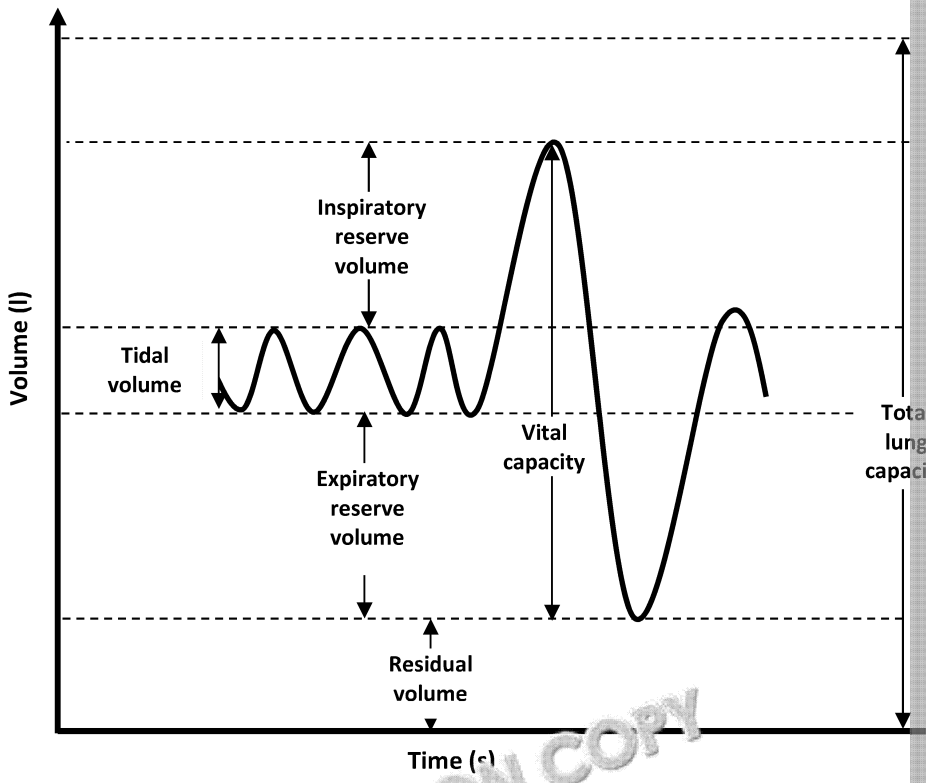
   (iv) Expiratory reserve volume – the additional volume of air that can be expire resting expiration

   (v) Inspiratory reserve volume – the additional volume of air that can be inspire inspiration

2.

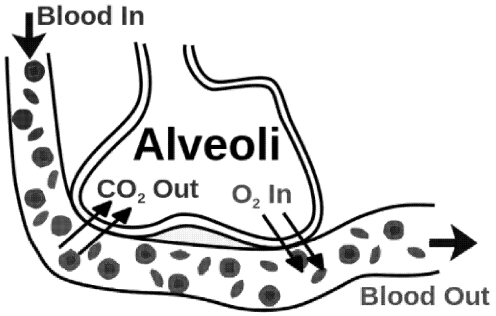
Respi[illegible]on [illegible]ssure	Av
[illegible]at[illegible]ng frequency	12
Tidal Volume	
Minute ventilation	

3.



4. (i)
   - Diffusi[illegible]s the movement of matter from an area of high concentratio (pa[illegible]ssure).
   - [illegible]uring respiration at the lungs, oxygen is transferred from the alveoli a capillaries, which carry the blood to be transported to the working mus the blood cells back to the alveoli and lungs, to be expired.
   - At the muscle cells, oxygen diffuses from the blood in the capillaries to them with oxygen to create energy. Equally, carbon dioxide diffuses fr be transported back to the lungs to be expelled from the body.

(ii) Students should draw a diagram similar to that below. They should identify t
dioxide between the alveoli and blood cells/vessels to illustrate diffusion.



5. **Chemical:**
- Controlled with chemorec[illegible] the aorta and medulla oblongata
- Chemoreceptors st[illegible]ate increased breathing via the ICC
- Detection o[illegible]ges in blood acidity levels, caused by carbon dioxide

Neu
- [illegible]receptors and proprioceptors detect changes in movement and stimula
- Temperature increases detected by thermoreceptors causing an increase in
- As lungs expand (fill with air), stretch receptors in lungs stimulate ECC to cau

Hormonal:
- Adrenaline is released by the adrenal gland. It is responsible for stimulating
which, in turn, increases breathing rate, allowing participation to be comple
- Acetylcholine triggers the parasympathetic nervous system, which slows do
rate decreases to bring the athlete back to a normal resting state.

Section B:

1. Ensure students show their calculations and identify the correct units of measure
(a) At rest, minute ventilation = 11 × 550 = 6050 ml/min (or 6.05 l/min)
(b) High intensity exercise = 35 × 5000 = 175 000 ml/min (or 175 l/min)

2. **Lungs:**
- Large number of alveoli – creates large surface area for diffusion
- Large number of capillaries – blood is slowed through numerous capillaries,
- Thin membrane – reduces the distance for diffusion

Muscle tissue:
- Thin capillary walls – shortens the distance of diffusion
- Large number of capillaries – increases surface area for diffusion to occur

3. (i)
- Can cause lung cancer
- Damages the cilia, which act to remove [illegible] from the body
- Damages alveoli walls
- Build-up of tar in the l[illegible]s

(ii)
- Carbon monoxide from smoke binds with haemoglobin, reducing the a
the blood cells
- [illegible]amaged alveoli walls, reducing the efficiency of gaseous exchange
- Less oxygen is transported to the body because less oxygen can bind w

(iii)
- People suffer from a shortness of breath
- Less oxygen is able to reach the muscle cells, so physical activity canno
smoker
- Serious health complications, such as cancer and emphysema, can limi

Section C:

1. **Hormonal:**
   - To maintain exercise intensity and to meet the demands of exercise, adrena
   - Adrenaline stimulates the sympathetic nervous system.
   - The sympathetic nervous system increases breathing rate, allowing the athl higher intensity, for longer.

   Neural:
   - Baroreceptors and proprioceptors detect changes in movement and stimula This sends a message that respiratory rate must increase to maintain exerci
   - Thermoreceptors identify changes in body temperature and send messages increase breathing rate, to expel some heat via respiration.
   - Exercising causes an increased demand for oxygen an , as such, an athlete v Breathing deeply causes the lungs to stretch and fully inflate. Stretch recepto expiration, maintaining an appropriate breathing rate.

   Chemical:
   - Chemoreceptors in the aorta and medulla oblongata identify changes in the an increase in presence of carbon dioxide in deoxygenated blood.
   - Chemoreceptors stimulate increased breathing via the ICC, which allows ath duration as they can breathe in more oxygen.

Exam-style Questions:

AS Level Paper 1:

1. Only one answer to be ticked.

   (a) Movement of gases from an area of high concentration / partial pressure to pressure (AO1)

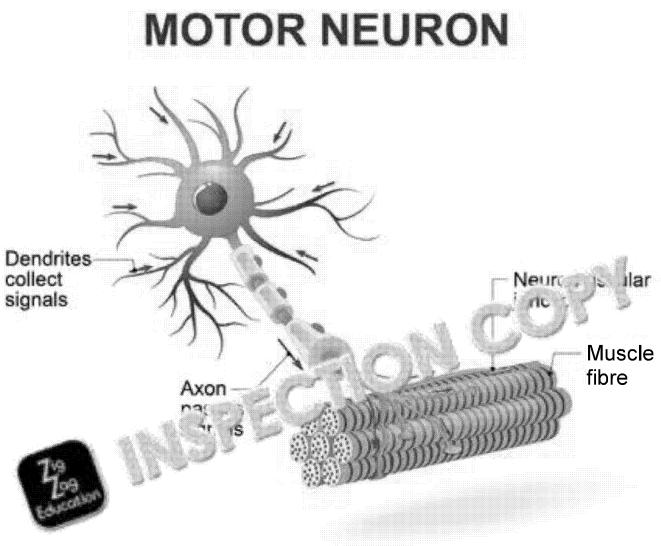
A Level Paper 1:

1. Maximum 3 marks. 1 mark awarded for AO2 and 2 marks awarded for AO3.
   - Diffusion is the movement of matter from an area of high concentration to a pressure) (AO1)
   - Oxygen is diffused from the alveoli to the red blood cells and carbon dioxide blood (red blood cells) to the alveoli down the concentration gradient. (AO2
   - Oxygen is transported to the muscles for cellular respiration (producing ene rate; the removal of carbon dioxide, which is expelled from the lungs, helps

Topic 2: Neuromuscular Syst

Section A:

1. Students should label and draw a diagram to show a motor neuron and its muscl



2.
   - Type 1 (slow twitch) – recover quickly, available for recruitment within 90 se damage from aerobic exercise means they don't need much time to recover if prolonged exercise is completed (e.g. a marathon).
   - Type IIb (fast glycolytic) – used during anaerobic exercise (e.g. 100m sprint). efforts, leading to delayed onset of muscle soreness (DOMS). Can take 24–4 DOMS.

3. Any of the following for each muscle fibre type:

Slow twitch (type I):
- high oxidative capacity
- slow contraction time
- high resistance to fatigue
- low force production
- low glycolytic capacity
- high capillary density
- high myoglobin
- small neurone size
- slow motor neurone conduction
- high mitochondrial content
- low anaerobic capacity

Fast oxidative glycolyti
- medium oxidative
- fast contraction ti
- medium resistanc
- high force product
- high glycolytic cap
- medium capillary
- large neurone size
- fast motor neuron
- medium mitochon
- medium myoglobi
- high anaerobic cap

Fast glycolytic (type IIb):
- low oxidative capacity
- fastest contraction time
- low resistance to fati e
- highest forc duction
- lyc capacity
- illary density
- ge neurone size
- fast motor neurone conduction
- low mitochondrial density
- low myoglobin content
- very high anaerobic capacity

4.

Stage name	O
Stage 1: Pre-stretch	A muscle is passively stre
Stage 2: Isometric contraction	While in the stretched po contracts the muscle (i.e. for 8–10 seconds
Stage 3: Static or dynamic stretch	The athlete then repeats beyond the original limit

Section B

1.
- **Slow twitch (type I)**
  - Marathon runner
  - Road cyclist
- **Fast oxidative glycolytic (type IIa)**
  - Football player
  - Boxer
- **Fast glycolytic (type IIb)**
  - Sprinter
  - Weightlifter

2.
- The **sympathetic nervous system** increases heart rate and breathing rate in as a rugby player getting ready to start a match. This is done by a release of
- This increase in heart rate and breathing rate allows the athlete to have incr the working muscles, to aid respiration, remove lactic acid and reduce fatigu exercise.
- The **parasympathetic system** inhibits messages sent by the nervous system, example, an archer being able to slow down their breathing rate and heart r and steady their aim. This is controlled by a release of epinephrine.

3.
- **Muscle spindles** and **Golgi tendon organs** are the types of proprioceptor fou injuries.
- Golgi tendon organs detect tension during isometric contractions (autogenic
- Muscle spindles detect speed and how far a muscle is being stretched.
- The proprioceptors detect when the muscle is being overstretched and act t overstretching and injury.
- In sport, this helps to prevent injury to prevent players overstretching muscle gymnastics, proprioceptors in the knee of the gymnast will detect whether th contract the relevant muscle to prevent further movement of the knee joint,

Section C:

1. (i)
- Muscles are made up of motor units (muscle fibres).
- Muscles are made up of motor units of different sizes.
- Muscles can also vary in size depending on the number of muscle fibre (e.g. the biceps will be made up of more motor units / muscle fibres th
- Sports or skilled movements that require power, or gross (i.e. large) mo motor units e.g. throwing a ball with your arm.
- Sports or skilled movements that require fine movements (such as com require the use of smaller motor units, e.g. adjusting the wrist during a

(ii) 'All or none' law states that for a muscle cell being controlled by a moto undergo full contraction, or it will not contract at all. Therefore there is no i

2.
- A games athlete performs exercise of differing intensities throughout their p
differing intensities). Therefore, all three types of muscle fibres would be re
- For example, if a hockey defender was watching their team travel up to the
defender would stay in position and use slow twitch muscle fibres (type I), a
or walking slowly), this would act as a recovery period for the ATP in their fa
- Type I muscle fibres are used for aerobic exercises that require low force pr
fatigue.
- During general gameplay, the hockey defender may spend the majority of th
move efficiently around the field (fast oxidative glycolytic muscle fibres (typ
- Type IIa have a fast contraction time and therefore relatively high force pro
they have a medium tolerance to fatigue, for this intensity of exercise, they
(type IIb) fibres.
- If the defender is suddenly required to track back [illegible]ly and make an aggre
intensity of exercise will suddenly increas[illegible] this will force the body into re
- Type IIb fibres produce the highest [illegible] out of force over a short period of ti
effort, or sprinting activi[illegible]
- As type IIb fibre[illegible] low tolerance to fatigue, the muscle cells cannot be
lacta[illegible] up, and the player will fatigue.
- [illegible]e recruitment refers to the order in which muscle fibres are recru
- [illegible]gher the intensity of exercise, the greater the amount of force that ne
- For less intense exercise, an element of control over the movement is often
- Production of force is dependent on the size of muscle cells and the numbe
- If a player's nervous system sends numerous individual stimuli to a muscle c
will result in a large muscle contraction (wave summation), useful for sudde
large muscle contraction is called a tetanic contraction.
- The player can produce more powerful contractions if multiple stimuli are se
culmination of multiple smaller impulses creates one large, powerful muscu
summation
- During a single maximal contraction of muscles, such as sprinting in hockey,
muscle fibres (slow twitch) will be recruited first, followed by the slightly big
followed lastly by the large fibres (fast glycolytic).
- This is important in games activities as when sprinting events occur, the play
as long as possible, to avoid fatigue.

Exam-style Questions:

AS Level Paper 1:

Maximum 2 marks for AO2. Maximum 1 mark for AO3. Accept other suitable justificat

- PNF stretching facilitates joints to move beyond their 'normal' range of motion. (
- Gradually stretching muscles beyond their range of motion makes the rugby play
- This allows the rugby player to get into different positions with more ease, such a
reducing the risk of injury. (AO3)

A Level Paper 1:

1. Accept other suitable answers. Any two from the follo[illegible] (AO1):

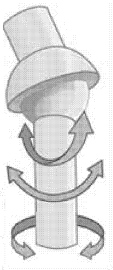
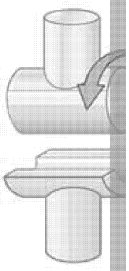
Slow twitch (type I):

- high oxidative capacity
- slow contraction time
- suited to aerobi[illegible]
- hi[illegible] fatigue
- [illegible]rce production
- [illegible]lycolytic capacity
- high capillary density

Topic 3: The Musculoskeletal System and M

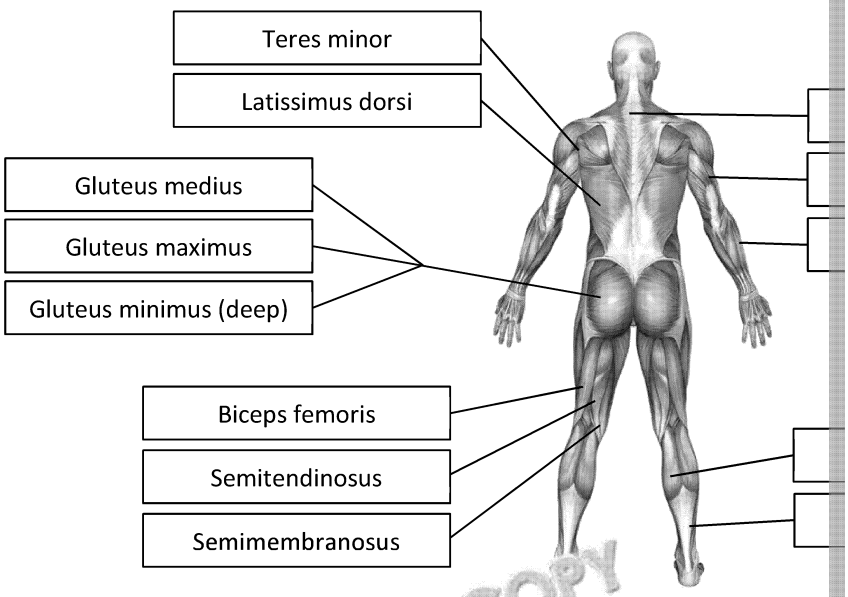
Section A:

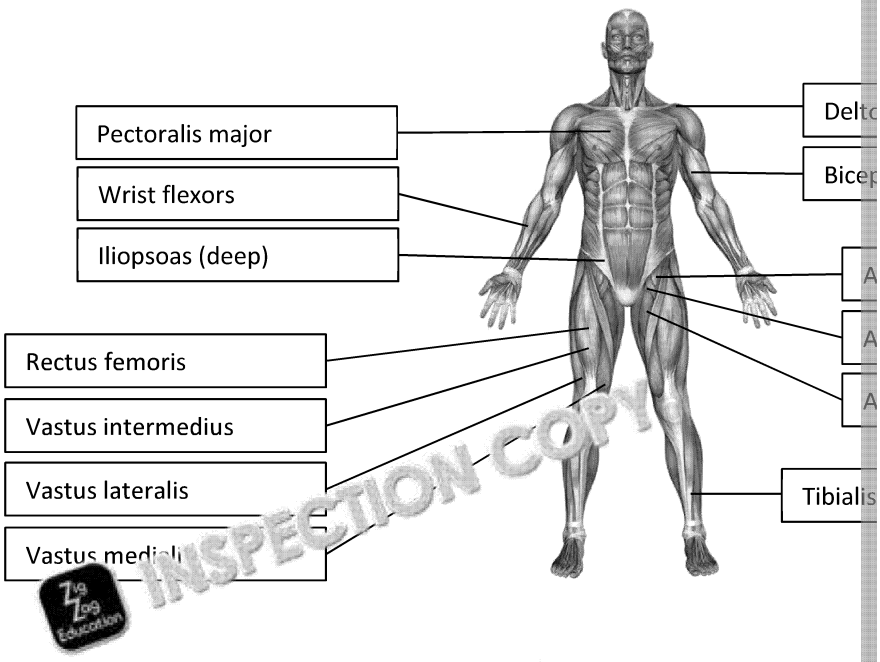
1.

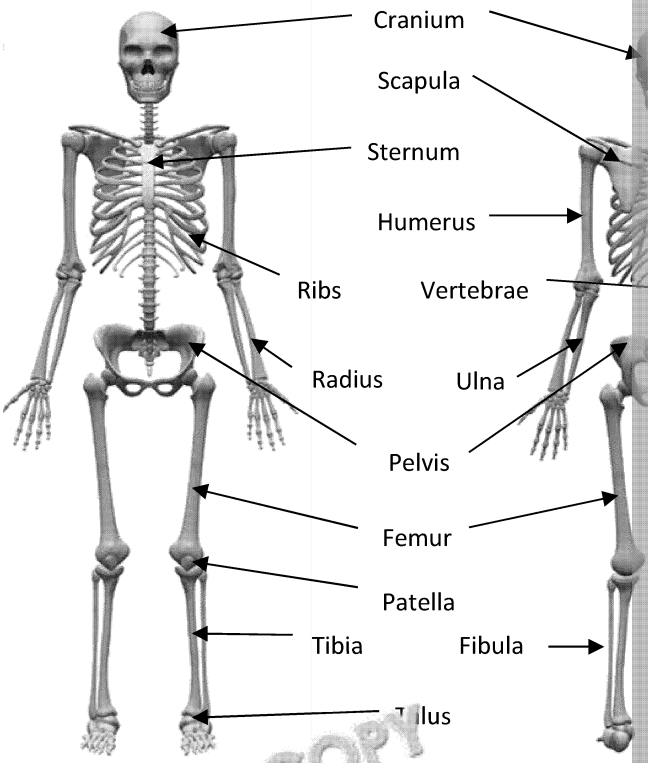
		
Joint type	Ball-and-socket	Hinge
Location on body	[illegible]uider	Elbow Knee Ankle

2.
- [illegible] – tough band of connective tissue
- [illegible]ar cartilage – smooth tissue, covers the surfaces of the joint's articula reduce friction
- Synovial membrane – produces synovial fluid
- Synovial fluid – liquid inside the cavity of a joint, to lubricate the joint
- Bursa – fluid filled sac that helps to reduce friction around a joint
- Joint capsule – contains a synovial membrane which helps to seal in a joint,

3.







4.

Joint	Possible movement types	Definition of movement	N
Ankle	***Dorsiflexion***	Decreasing the angle between the tibia and the foot	T
	Plantar Flexion	Increasing the angle between the tibia and the foot	S
Knee	Flexion	***Decreasing the angle between the upper and lower leg (backwards motion)***	H se
	Extension	***Increasing the angle between the upper and lower leg***	Q la in
Shoulder	Flexion	***Decreasing the angle between the arm and the f... the body***	P
	Extension	...creasing the angle between the arm and the back of the body	P
	...yperextension	Movement of the shoulder backwards, past the side of the body until it cannot be moved any more	P
	Abduction	Increasing the angle between the arm and the side of the body	M
	Adduction	Decreasing the angle between the arm and the side of the body	L
	Horizontal adduction	***Movement of the arm in a forwards motion across the body; the angle is at 90 degrees when compared to shoulder abduction***	P
	Horizontal abduction	***Movement is where the arm is held at 90 degrees forwards, and then moved away from the body outwards***	P
Elbow	Flexion	Decreasing the angle between the upper and lower arm	B
	Extension	Increasing the angle between the upper and lower arm	T
Hips	***Flexion***	Bringing the leg forward, reducing angle between the femur and front of the body (sagittal plane)	Il
	Extension	***Bringing the leg (femur) backwards (or behind) the body in the sagittal plane***	G
	Hyperextension	***Movement increased beyond 180 degrees, leg is passed standing po...on and moves backwards***	G
	Abduction	***Movi... leg ...ay from the midline of the ... (fr...tal plane)***	G m
	A...	***Bringing the leg in towards the midline of the body (frontal plane)***	A m

5. (A) ...ittal – Divides the body into left and right sides. Forwards and backward
(B) Frontal – Divides the body into a front and a back. Sideways motion occurs
(C) Transverse – Divides the body into upper and lower parts. Rotation and hor... this plane.
(D) Sagittal – Runs though the midline of the body from front to back.
(E) Transverse – Runs through the midline of the body from left to right.
(F) Longitudinal – Runs through the midline of the body from head to toe.

6. • Agonist (prime mover) = the muscle that is the primary instigator of movem...
• Antagonist = the muscle that opposes the agonist muscle, by relaxing

Section B:

1. Missing answers are in bold. Accept suitable sporting examples, e.g.

Movement	Plane	Axis
Extension of the elbow	Sagittal	Transverse
Flexion of the elbow	***Sagittal***	***Transverse***
Extension of the shoulder	***Sagittal***	***Transverse***
Flexion of the shoulder	***Sagittal***	Transverse
Adduction of the shoulder	***Frontal***	***Sagittal***
Abduction of the shoulder	***Frontal***	Sagittal
Horizontal adduction of the shoulder	Transverse	Longitudinal
Horizontal abduction of the shoulder	Transverse	Longitudinal
Plantar flexion of the ankle	***Sagittal***	***Transverse***
Dorsiflexion of the ankle	Sagittal	***Transverse***
Flexion of the hips	***Sagittal***	***Transverse***
Extension of the hips	***Sagittal***	***Transverse***
Abduction of the hips	Frontal	Sagittal
Adduction of the hips	Frontal	Sagittal
Horizontal adduction of the hips	Transverse	Longitudinal
Horizontal abduction of the hips	***Transverse***	***Longitudinal***
Flexion of the knee	***Sagittal***	***Transverse***
Extension of the knee	***Sagittal***	***Transverse***

2. (a) **Preparation:**
- Agonist = hamstrings group (semimembranosus, semitendinosus and b
- Antagonist = quadriceps group (rectus femoris, vastus lateralis, vastus
- Muscular contraction = (hamstrings group) eccentric
- Articulating bones = femur, tibia and fibula

Follow-through/kicking:
- Agonist = quadriceps group (rectus femoris, vastus lateralis, vastus me
- Antagonist = hamstrings group (semimembranosus, semitendinosus ar
- Muscular contraction = (quadriceps group) concentric
- Articulating bones = femur, tibia and fibula

(b) **Flexion:**
- Agonist = biceps brachii
- Antagonist = triceps brachii
- Muscular contraction = (biceps brachii) concentric
- Articulating bones = humerus, radius and ulna

Extension:
- Agonist = triceps brachii
- Antagonist = biceps brachii
- Muscular contraction = (triceps brachii) concentric
- Articulating bones = humerus, radius and ulna

3. (i) Isometric
(ii) Eccentric
(iii) Concentric

Section C:

1. Students should consider *all* of the following points to fully perform movement a

Downwards phase:
- Joint types: (ankle) hinge joint; (knee) hinge joint and (hip) ball and socket
- Type of movement: ankle = plantar flexion; knee = extension; hip = extensio
- Agonist: ankle = gastrocnemius and soleus; knee = quadriceps group (rectus medialis, and vastus intermedius); hip = quadriceps group (rectus femoris, v vastus intermedius) and abdominal muscles
- Antagonist: ankle = tibialis anterior; knee = hamstring group (semimembran femoris); hips = hip flexors and abdominal muscles
- Muscle contraction: ankle = concentric; knee = concentric; hip = concentric

Upwards phase:
- Joints: *as above*
- Type of movement: ankle = dorsiflexion; knee = flexion; hip = flexion
- Agonist: ankle = tibialis anterior; knee = hamstring group (semimembranosu hip = iliopsoas and abdominal muscles
- Antagonist: ankle = gastrocnemius and soleus; knee = quadriceps group (rec medialis, and vastus intermedius); hips = quadriceps group (rectus femoris, vastus intermedius) and abdominal muscles
- Muscle contraction: ankle = eccentric; knee = concentric; hip = concentric

Exam-style questions

AS Level Paper 1:

1. Maximum 2 marks from the following:
- Antagonistic muscles oppose the movement of the agonist muscle by relaxi
- Antagonistic muscles help to control the joint movement as the agonistic mu

A Level Paper 1:

1. 1 mark awarded for AO1, 2 marks awarded for AO2
- Movement – horizontal abduction (AO1)
- Agonistic muscle – latissimus dorsi (AO2)
- Plane of movement – transverse (AO2)

Topic 4: Skill Classifications, Transfer of Lea
Types of Practice

Section A:

1. Any of the following could be labelled:
   - Efficient
   - Aesthetically pleasing
   - Consistent
   - Accurate
   - Fluent
   - Economical
   - Controlled

2. 1. Difficulty – how complicated and how m ny e sions are required to compl
   2. Environmental – how the envi and surroundings influence the perf
   3. Pacing – refers to timi dividual movements of a skill
   4. Muscular inv ow precise a movement is and the muscle movem
   5. ther a skill has a clear beginning or end
   6. isation – how the skill is built, e.g. subroutines that work together or

3. Positive transfer is the beneficial transfer of a learnt skill, on the performance an

4. Negative transfer is the negative effect or hindrance of a learnt skill, when perfor

5. Zero transfer is when the aspects of one skill have no bearing on the learning of a nothing in common.

6. Bilateral transfer is the transfer of a skill from one side of the body to the other.

Section B:

1. Accept suitable sporting examples

Skill continuum	Skill classification	Characteristics
Difficulty	Simple	• Low importance in cognitive processes • Transferable
	Complex	• Decision-making is key • High levels of coordination required • Numerous subroutines involved
Environmental	Open	• Occurs in an unpredictable environmen • Skills and m[illegible]ent adapted to deal with [illegible]ent [illegible]erceptual skills
	[illegible]se[illegible]	• Occurs in a predictable environment • Adaptation to technique is not required
[illegible]ing	Self-paced	• Timing and pace of skill is under performer's control
	Externally-paced	• Timing and pace of skill is out of the performer's control
Muscular involvement	Gross	• Skills that require large muscle groups • Power and strength important – skill and accuracy less important
	Fine	• Skills which use small muscular groups • Skills that require high levels of control and accuracy
Continuity	Discrete	• Have a clear beginning or end • One specific skill
	Serial	• Follow a specific sequence • Consist of numerous discrete skills
	Continuous	• No obvious beginning or end • Can be easily repeated
Organisation	Low	• Easy to divide into subroutines • Require little attention
	High	• Complicated skills • Difficult to split skill into subroutines

2.

Type and method of practice	Description
Whole practice	The skill is practised from the start point to the end point with no breaks in the movement.
Progressive part practice	***Practicing each subroutine of a skill in order, gradually combine each subroutine, until the whole skill movement is complete.***
Mental practice	***Visualising a movement or skill in your mind (without moving) before performing the skill.***
Variable practice	The environment is manipulated to allow a skill to be practised in numerous competitive situations.
Whole-part-whole practice	***The athlete practices the skill as a whole (whole practice), then breaks the skill into subroutines (part practice), and then practices the skill as a whole again (whole practice).***
Massed practice	***Practice of a skill is uninterrupted by breaks or discussion, it is practiced as a whole movement.***
Distributed practice	***Practice of a skill has breaks and discussion at regular intervals.***

Section C:

1.
- Different types of practice are suited to different types of skill, so practice n
- **Whole practice** – skill practised from a clear start point to end point – suited and fine / discrete / high and low organisation, e.g. hammer throw
- **Whole-part-whole practice** – mixture of 'whole' and 'part' practice – suited long jump
- **Progressive part practice** – learning subroutines chronologically, before perfor complex / closed / self-paced / serial / low organisation, e.g. gymnastics floor r
- **Massed practice** – continuous practise with few or no breaks between – suited paced / gross / continuous and low organisation, e.g. running (with high fitness
- **Distributed practice** – similar to massed practice but allows breaks within p externally and self-paced / gross / continuous and low organisation, e.g. run
- **Mental practice** – repetition of a short drill practising a skill – suited to simple and fine / discrete and serial / low and high organisation, e.g. passing drill in fo
- **Variable practice** – environment or playing area is manipulated to represen complex / externally paced / gross and fine, e.g. rugby drill getting players t based on moving defenders

2. A coach would identify any major similarities or differences between skills.

Positive transfer:

- A previously learnt skill aids the learning of a new skill. The skills will tend to
  bowling in cricket.
- A coach would identify a previous skill set of a player and use this as a prima
- A teacher should explain to a learner how the previous skill will benefit the
- Practices should be similar to real-world events so that transfer can be appli
- This type of transfer naturally limits negative transfer as the skills are similar

Negative transfer:

- This is the negative effect a previously known skill can have on the learning
  transferring to a javelin event.
- The coach would attempt to break down the previously learnt skill and learn
  the movements from old skill negatively affe[illegible]ew skill.

Zero transfer:

- This is when a previous[illegible] skill has no effect at all on the learning of a
  nothing in com[illegible]
- Th[illegible]coa[illegible]nsure that a new skill being learnt will be compared to a
  [illegible]res[illegible]mblance (to the new skill).

Bilate[illegible] transfer:

- This is the transfer of a skill from one side of the body to another, e.g. learni
  as well as the right foot.
- A coach would identify whether a player needs bilateral transfer to advance
  more positions or become more mobile on the pitch. They would attempt to
  side (e.g. the right foot) and explain how to perform the subroutines on the
- Providing the athlete does not develop bad technique or habits on their wea
  skill from one side to the other maximises positive transfer.

Exam-style Questions:

AS Level Paper 1:

1. 1 mark (AO3) for each of the following:
   - Closed – There are few decisions to make and the environment remains mo
   - Serial – The triple jump is made up of several discrete skills (hop, skip, jump)

A Level Paper 1:

1. 4 marks awarded from the following (examples should be used to support answe
   - Positive transfer is the beneficial transfer of a learnt skill on the performanc
   - Positive transfer occurs when a skill from one sport is similar to a skill being
   - Negative transfer is the negative effect or hindrance of a learnt skill, when p
   - Negative transfer occurs when a known skill is different from the new skill b

Topic 5: Principles and Theories of

Section A:

1. A learning plateau is a period of time whereby a performer struggles to make any performance.

2.
- Tedium
- Reduced motivation
- Injury or fatigue
- Limited natural ability of athlete
- Incorrect coaching techniques used by coach
- Setting targets that are too easy

3.

Operant conditioning response	Description
Positive reinforcement	Stimulus is given when desired response is given
Negative reinforcement	Adverse or unpleasant stimulus is withdrawn when desired response is given
Punishment	Giving adverse or unpleasant stimulus to prevent response occurring or removing pleasant stimulus.

4.
- **Law of exercise** – by repeatedly practising a skill, the S-R bond is strengthen practised and stored in the brain, e.g. continuously practising 3-pointers in b
- **Law of effect** – effects can either be satisfying or dissatisfying following a skill a satisfying response (i.e. they were successful) then the S-R bond is strengthe effect, the S-R bond is weakened, e.g. a beginner diver learning a backwards d strengthening the S-R bond, or unsuccessful, weakening the S-R bond, putting

5. (i) Attention – example of image could be a young individual watching/observi
(ii) Retention – example of image could show young individual remembering a s model on TV
(iii) Motor reproduction – example of image could be the young person demons
(iv) Motivation – example of image could show how motivation (e.g. praise) can the skill

6.
- Social interaction, and the culture of the individual, heavily influences cogni
- This involves observing and imitating actions of surrounding individuals that (social learning).
- A process of interpsychological learning takes place, whereby the individual the skill, using the information that they have gained from the more-skilled
- The development of cognition is influenced by the zone of proximal develop
- The ZPD relates to the step after social learning, i.e. how the individual puts

7.

Characteristics	Stages of learning	
	Cognitive	**Associative**
	Mental practice occurs, with the learner using this to form a basic understanding of the skill.	A shift towards physical practice takes place.
	The skill is performed inconsistently, with only a slight improvement being made.	Skill performance becomes more consistent, with the largest improvement being made during this stage.
	The learner relies on guidance to perform the skill due to a lack of understanding themselves.	The learner gains a personal understanding of the key components of the skill.
	Making basic errors is common, due to the trial and error nature of this stage.	Fewer basic errors are made, but errors during the more complex movements still occur.
	The learner does not understand how to adapt their performance when faced with a variety of situations.	The learner begins to understand how to adapt their performance to be successful in various situations.
	The learner has to direct a large proportion of their attention to completing the skill.	There is a balance between conscious and autonomous control over the skill.
	External and positive feedback are most effective.	There is less external feedback, with a slight shift towards intrinsic. Positive feedback is still effective.

8. (i) **Gestalt** – Gestaltists believe that skills are perceived as a *whole*. The unders enables understanding.
   (ii) **Insight theory** – the linking of subcomponents of a skill through suddenly ha sudden understanding of subcomponents to form a whole skill allows sudde performance.

Section B:

1. 1. Provide the gymnast with more positive feedback and reinforcement to mai
   2. Add new tasks and challenges to the training schedule to give variety and in
   3. Ensure the gymnast is well rested or is given more time to recover
   4. Educate the athlete on 'learning plateaux' so that they can contribute ideas
   5. Provide more feedback to the athlete
   6. Review the targets with the gymnast and see whether they are challenging e
   7. Help to find the gymnast a new coach

2. - **Positive reinforcement** – e.g. a coach saying well done, keep it up, great pe behaviour/performance
   - **Negative reinforcement** – following a good performance in training, a c (essentially removing the negative feedback)
   - **Punishment** – following a bad performance, the coach would add a pun n, such as adding a brutal workout to the end of the routine, and not l

Section C:

1.
   - Bandura's theory of social learning suggests that learning can occur in an inc (observational learning).
   - **Attention** – the learner observes a highly skilled individual (above their own close attention to the components of the skill and the skill as a whole, e.g. a performing a cross from a corner.
   - **Retention** – the learner remembers the aspects of performance from whom able to remember the stages of the corner cross and the subroutines involve
   - **Motor reproduction** – the learner having the ability to physically perform th time for the learner to accurately perform the skill, e.g. the learner practisin match in the park.
   - **Motivation** – the observer should be motivated to learn the skill to a level si they respect the person they observed, they are [illegible] likely to be motivated

Exam-style Questions:

AS Level Paper 1:

1. Maximum 3 marks [illegible] the following:

   Identification (sub-max 1 mark)

   - [illegible]hlete is experiencing a learning plateau

   Possible causes (sub-max 2 marks)

   - Tedium/boredom from session
   - Reduced motivation
   - Injury or fatigue
   - Limited natural ability of athlete
   - Incorrect coaching techniques used by coach
   - Setting targets that are too easy

A Level Paper 1:

1. Maximum 2 marks from the following:
   - Physical practice and analysis of the practice take place (AO1)
   - Skills are successfully performed on a consistent basis, with only a slight imp
   - The learner has total knowledge of how to perform the skill (AO1)
   - Very few errors are made throughout the whole skill movement (AO1)
   - The learner can easily adapt their skill performance to suit different situatio
   - The movement is under autonomous control, with little or no conscious thou
   - Intrinsic and negative feedback are the most effective (AO1)

Topic 6: Use of Guidance and Fe

Section A:

1. Students are to identify feedback and give a relevant keyword that can help them
   - Intrinsic – e.g. within/internal/senses/kinaesthesis
   - Extrinsic – e.g. external/outside/guidance
   - Positive – e.g. constructive/supportive/encouraging
   - Negative – e.g. criticisms/goals/corrections
   - Knowledge of performance – e.g. intrinsic/kinematic/technique/analysis
   - Knowledge of results – e.g. score/time/outcome

2. (i) Mechanical guidance
   (ii) Verbal guidance
   (iii) Visual guidance
   (iv) Manual guidance

Section B:

1. Images to accompany present types of guidance. Example scenarios given belov
   Ver e.g. during halftime, a rugby coach giving his players instructio set plays
   Mechanical: e.g. scrummaging machine in rugby training
   Visual: e.g. coach performing a rugby conversion in front of learners
   Manual: e.g. a swimming instructor supporting a novice swimmer in th

2. Accept other suitable examples, e.g.
   Intrinsic: e.g. knowing that the shot technique was good as you knew it felt good skill
   Extrinsic: a coach informing a defender that their defensive stance was good
   Positive: a parent shouting encouragement from the sideline / constructive critici
   Negative: a coach telling you that you were in the wrong position / missing a sho
   Knowledge of performance: the player knowing that they made 80% of their sho
   Knowledge of results: the team won the netball match / seeing the scoreboard d

Section C:

1. **Verbal:**
   Advantages
   - used to target specific areas of performance
   - for experienced performers, can give extra details of performance

   Disadvantages
   - information overload
   - can be hard to verbally describe performance variables

   Example
   During half-time, a rugby coach giving his players instructions on how he wants th

   Mechanical:
   Advantages
   - limits the potential risks of injury/activity
   - for beginners, gives an initial feel of the movement

   Disadvantages
   - dependence on mechanical support
   - can limit the performer's natural feel for the whole skill

   Example
   Scrummaging machine in rugby training

   Visual:
   Advantages
   - for simple skills, it is an effective way of showing how to perform a skill
   - helps to highlight key subroutines of a skill
   - can be delivered to large groups at the same time

Disadvantages

- for complex skills, the performer may not be able to perform the whole skill
- understanding of why a subroutine is performed may be missed
- coach may not provide an accurate demonstration

Example

A coach performing a rugby conversion in front of learners

Manual:

Advantages

- can improve safety of dangerous activities
- increases confidence of performer

Disadvantages

- over-reliance on support by the performer
- can limit the natural feel of a skill perfor[illegible]e

Example

A swimming instructor su[illegible]ortin[illegible] novice swimmer in the water

2. Spor[illegible]xar[illegible]ould be used throughout.

Intr[illegible]

- [illegible]es from within a performer. It is concerned with how a sporting action
- e.g. a footballer taking a free kick to curl the ball around the wall would feel
  place.
- Autonomous performers can use it without the need for external feedback.
- Cognitive stage athletes may be unaware of how the movement should feel
  performed successfully.

Extrinsic:

- Comes from sources external to the performer, such as from a coach or tea
  the outcome of a performance or the level of performance shown.
- e.g. a coach may report to a javelin thrower that they need to adjust their t
- It is best suited to cognitive and associative performers as they have not de
  shown feels; therefore, they rely on extrinsic feedback.

Knowledge of performance:

- A form of both intrinsic and extrinsic feedback that generally concerns techni
  self-assess their performance or analyse their performance in ways such as vi
- e.g. a swimmer could be talked through their technical performance using slo
- It is useful for cognitive stage performers as it provides them with information
  of (i.e. technique). However, it can overload cognitive performers with inform
- It is useful for associative and autonomous athletes as it allows them to refine

Knowledge of results:

- This is extrinsic feedback regarding the outcome of a performance that allows
  success of a performance.
- e.g. a judge's score following a floor gymnastics routine gives this feedback.
- For cognitive stage performers, it gives them instan[illegible]dback on their level o
  them, if bad, it can demotivate them. It do[illegible]ot, however, give details of ho
- Knowledge of results can be used to [illegible]g[illegible]or targets for autonomous perf

Positive:

- This is a type of [illegible]ck that reinforces behaviour through praise.
- e.g. [illegible]praise a footballer for performing an accurate cross.
- [illegible]itive stage learners, positive feedback reinforces good performances
  m[illegible]ation.
- In cognitive and associative stage performers, excessive positive feedback can

Negative:

- This is intrinsic (autonomous) or extrinsic (cognitive and associative) feedback
  behaviours by addressing flaws in performance.
- e.g. a coach could highlight flaws in technique of a tennis serve to a beginner.
- For autonomous performers, negative feedback can improve focus and motiv
- For cognitive and associative performers, negative feedback can decrease mo
  they are being criticised.

Exam-style Questions:

AS Level Paper 1:

1. Maximum 2 marks awarded for AO2 and 1 mark for AO3.
    - Mechanical guidance uses physical equipment to aid the movement or learn
    dangerous, such as those in gymnastics (AO2)
    - Mechanical guidance uses physical equipment to aid the movement or learn
    appropriate to use in gymnastics (AO2)
    - Mechanical guidance helps to give beginner athletes a general feel for the m
    - Gymnastics requires routines that are made of numerous complex skills (AO
    - Therefore, mechanical guidance allows a beginner athlete to practise a rout

A Level Paper 1:

1. Only one answer to be ticked.

    (c) Information regarding performance originating from within your own body an

Topic 7: Emergence of Globalisation of Sport
Century

A: Pre-industrial (Pre-1780)

Section A:

1.
- Wagering – on the poor and by the rich
- Violent – usually reflected how times were during pre-industrial Britain
- Unwritten or simple rules – lack of NGBs and a general illiteracy among thos
- Local – due to no transport for travelling
- Rural – in fields with no boundaries
- Irregular – usually during annual holidays or free time for recreation
- Different sports for different classes – mob football (lower classes), real ten

2. **Upper class (aristocracy)**
- Often owned or inherited land
- Took part in more sophisti[illegible]es such as real tennis
- Used money to dev[illegible] pas[illegible]es
- Took the ro[illegible] f[illegible]ors for the lower classes
- [illegible]ai[illegible]ateur status

Lowe[illegible](peasants)
- Working class
- Took part in violent recreational activities (such as mob football)
- Took part in activities linked to their occupation, such as walking
- Took the role of performers and competitors as professionals

Section B:

1. **Mob football**
- Violent and unregulated – representative of the living conditions and lack of l
- Mass participation – this was due to the working classes only being able to p able to travel to other towns because of a lack of transport
- No written rules – illiteracy levels were extremely high in the working classe were recorded

Real tennis
- Required specialist equipment / playing areas – the two-tier system meant members of society could participate in real tennis because they could affor
- The rules of real tennis were complex – the upper classes were highly educa developed and recorded
- Real tennis had a strict code of conduct / morals to be followed – the upper were reflected in the sports they played

Section C:

1. **Education/literacy**
- There were high levels of illiteracy (of the lower classes).
  - Rules for sports had to be simple as they could not be written down, re
  - This led to a rise in violence as rules were not enforced.
  - Activities were simple to understand.
- The upper classes were educated.
  - They enforced some rule[illegible]s.
  - They enforced[illegible]tiquet[illegible]and were gentlemen.
  - There w[illegible]e[illegible]complex rules.

Exam-st[illegible]estions:

AS Level [illegible]1:

2 marks from the following (AO1):
- Popular recreation – the activities that people participated in during pre-industri
- Normally refers to the lower class, but the upper class also participated in some p

A Level Paper 1:

Any two of the following characteristics (AO1):
- Wagering
- Violent
- Unwritten or simple rules
- Local
- Rural
- Irregular
- Different sports for different classes

Topic 7: Emergence of Globalisation of Sport
Century

B: Industrial and Post-industrial (1780–19

Section A:

1. There was the emergence of the middle class, as well as the already existing upp

2. (i) **Definition:** An amateur is someone who takes part in sport for enjoyment, n otherwise. The upper and middle classes accounted for the majority of amat
Characteristics:
   - Held high moral values, such as following strict rules, striving for the be strong moral compass
   - Amateurs came from well-educated [illegible] school backgrounds
   - Had spare time to dedicate to sport (which they could afford to do)
   - Used sport as a tool to promote good ethics and morals

   (ii) **Definition:** A professional is someone who takes part in sport for the financi main source of income. Working-class people accounted for the majori
Characteristics:
   - The working class – the poorest members of society – were profession
   - Professionals were paid to compete, to make up for loss of wages from sport); for example, working factory football teams
   - Because they were paid to compete, professionals were the highest sta time

3. - Working-class factory workers worked many hours for little money, reducing time
   - Urbanisation (moving into cities) meant that there was less available space i (e.g. mob football)
   - Poor hygiene and living conditions due to urban migration meant that peopl
   - Law reforms and changing views of people meant that 'mob' games were di

4. - Industrialisation led to an increase in working hours – 12-hour working days day of rest.
   - Increased working hours meant less free time to play sports.
   - However, company owners (middle class) encouraged sports participation in increased leisure time.
   - The health benefits of sport were a deciding factor for encouraging factory o

5. - Working-class factory workers worked many hours for little money.
   - There was a lack of disposable income to participate in sport.
   - Link to transport – more affordable transport meant sports and rules could l were not able to afford transport.
   - Lack of public provision of / access to facilities for the lower classes.

Section B:

1.

Characteristic	Reason for the emergence
Influenced by religious beliefs	'Muscular Christianity' was promoted in public sch religion
Controlled wagering	Rules surrounding gambling became stricter due t country
Belief in morals and fair play	Promoted by the middle class and public schoolbo Christianity)
Revolutionary	Urban migration and industrialisation caused new more in line with living and working conditions
Purpose-built facilities	Middle-class factory owners developed teams and Large workforces [illegible] lower-class workers coul sport, often being given paid time off work, such a such as [illegible] were also developed as migration o
Regular participation	Towards the mid twentieth century, working envi a more structured working week, allowing them t free time
Codification	As education improved for the working classes, sp This made sport more structured. The emergence codification as nationwide laws of the game were
National and international participation	Transport improvements meant that people could spread sport nationally and internationally

2. **Gender**
   - Sports played by women deemed as 'weak' sports
   - Emergence of lawn tennis in the middle class for women
   - Women were allowed to take part, but were required to wear dresses
   - Was the vehicle of the liberation of women's stereotypical image
   - Not accepted among public schoolboys, due to not being 'manly' enough

   Education/literacy
   - Education rates increased in the middle and upper classes.
   - Sports such as lawn tennis required more cognitive thinking and rules – this education in the higher social classes.

3. Identification of the **railway system**.
   - The railways allowed people to travel further to participate in sports.
   - It was largely affordable for the working/lower classes.
   - People were able to play against a variety of opponents.
   - Structured tournaments and competitions emerged.
   - It enabled people to travel to both participate and spectate sport.
   - Field sports such as walking and climbing became more accessible as a resul people to go to the countryside to take part.
   - (Communication) Main communication was by newspapers
   - (Communication) Increasing literacy within the population meant newspapers v
   - (Communication) Newspapers reported local fixtures and results of sports, v travel to matches due to improvements to the standards of transport

4. - Sport was developing nationally as more teams in more areas participated
   - Sport was being played nationally and internationally and so needed to be s
   - Sport being played nationally and internationally meant that a strict set of r
   - More teams meant that competitions and fixtures were in high demand to b
   - There was a need to combat early signs of professionalism, to keep sport an
   - Sport being played nationally

5. - Widespread illiteracy – the rules were simple
   - Local – the Wenlock Olympian Games had participants from the local area
   - Rural – the early Games took place in rural areas of Shropshire where there
   - Wagering – people could place bets on the result of events

6. Urbanisation to include reference to:
   - Increase in factories
   - Mob football was banned
   - Society became more civilised
   - Large working-class population
   - Increased demand for more entertainment
   - Increased free time for workers
   - Development of football teams who worked at factories
   - Improved purpose-built facilities
   - Improved law and order
   - Increased transport and, therefore, accessibility

7. Any two from the following:
   - Teachers – implementing and te[illegible] sp[illegible]s, encouraging traditional sport
   - Factory owners – devel[illegible] [illegible]ball teams and allowing time off so that th
   - Clergy – prom[illegible] [illegible]across their local community and took sport abroa
   - [illegible]ers [illegible]ed law and order, eradicating bloody and violent sports
   - [illegible]nals – regularly travelled and, therefore, took their own versions of sp
   - [illegible]pt any other suitable answer

Section C:

1.
   - Public schoolboys created a 'melting pot' of ideas and sports that were take
   - **Organisation of sport and games:**
     - Sport was seen as a way of distracting pupils and a way to exert unsper
     - Inter-house sport competitions promoted values of teamwork and lea
     - Many public schoolboys went on to become middle-class factory owne e.g. West Ham United).
   - **Ethics**
     - A code of behaviour was important to schoolboys during sport.
     - A sense of fair play was created – respecting opponents and competin
   - **'Cult' of athleticism**
     - The idea of athleticism emerged.
     - Athleticism encouraged sportsmanship – rules were followed and oppo
   - **Spread and export of games and ethics throughout the British Empire**
     - Games and sports were taught by teachers to promote characteristics
     - When schoolboys moved on to university or work, they took these valu ethics and games. This allowed further structuring of games.
     - Many schoolboys moved on to become officers in the army, or clergym throughout the British Empire. For example, the spread of cricket to In
     - National governing bodies (NGBs) were created by ex-public schoolboy

2.
   - Christianity was the dominant religion of [illegible]e UK [illegible] post-industrial Britain an people's lives, including sport.
   - Churches had the neces[illegible]ili[illegible]es / space to play sport, e.g. grass areas a
   - Churches used s[illegible] [illegible]eir facilities) to encourage people to turn up to c
   - Th[illegible]ro[illegible] [illegible]uscular Christianity' (strong mind and body) was promoted
   - [illegible]hes identified that sport could be used to keep people from 'sinning' ([illegible]s of social control and to promote good morals.
   - Church teams were set up (e.g. football teams) and helped in the organisati

Exam-style Questions:

AS Level Paper 1:

1. (a) Controlled wagering (AO1)

A Level Paper 1:

1. Maximum 3 marks awarded from the following points (AO3):
    - Industrial Revolution – a change in the working and living conditions of the
    towards larger cities to work in factories. This was known as 'urbanisation'.
    - Urbanisation – the migration of people from rural to urban areas meant mo
    meant there were more people to participate in sport locally, but a lack of s
    possible. (AO3)
    - Transport and communication – the development of an affordable railway s
    further away to participate in, or spectate, sport. This spread rules of games
    fixtures. (AO3)
    - The British Empire – games were developed throughout the British Commonwe
    forces and missionaries from the church travelled abroad. This created a lar
    some sports across the Commonwealth. (AO3)
    - Factories – middle-class factory owners encouraged the formation of factory
    in their team (or gave them a half-day on Saturdays). This allowed p
    being paid. (AO3)
    - Three-tier class system – the development of a middle class in Britain allowe
    businessmen used their money and facilities to grow sport and create comp
    fixtures. (AO3)
    - Development of national governing bodies – as different sports became mo
    dedicated to particular sports, allowing individual sports to develop their ru
    competitions. (AO3)
    - Changing role of women – the emergence of the middle class allowed wome
    deemed 'feminine' (i.e. not 'manly'), such as lawn tennis. (AO3)
    - Amateurism and professionalism – as sport became more popular, becomin
    financially viable option for many people if they were good enough, as they
    - Accept other suitable answers.

Topic 7: Emergence of Globalisation of Spor
Century

C: Post World War II (1950–present)

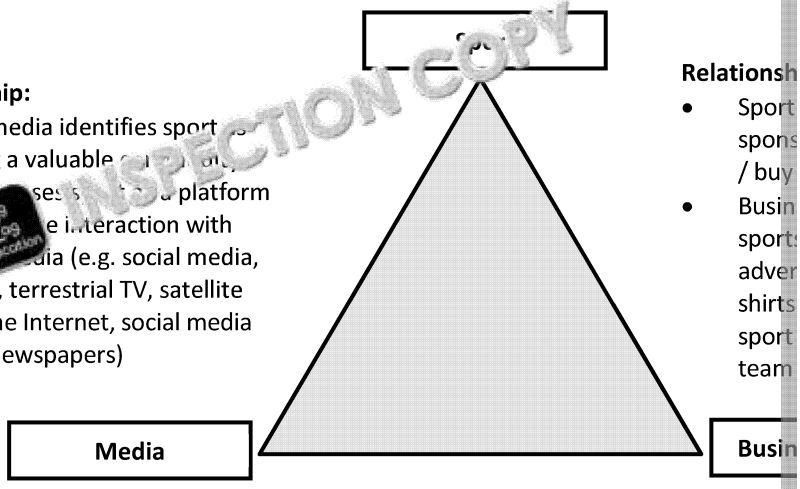
Section A:

1.
- Amateurism and professionalism were still similar to the format of the ninet
- The working class accounted for the majority of professionals.
- The upper and middle classes accounted for the majority of amateurs.
- However, higher classes were more likely to participate in sport due to the in

2. Globalisation means increasing global influence for recognition on an internation

3.

Relationship:
- The media identifies sport as being a valuable [illegible] and [illegible] platform to [illegible] interaction with the [illegible]dia (e.g. social media, radio, terrestrial TV, satellite TV, the Internet, social media and newspapers)



Relationsh
- Sport spons / buy
- Busin sport adver shirts sport team

Relationship:
- If the media increases its viewership through sport, companies are more likely to want to advertise during sporting events, paying money to media companies to do so

Section B:

1.
- Growth in the number of female role models in sport means that young wo follow in the footsteps of their idols.
- Media interest is gradually growing for women's football which, in turn, gen improve the standard of the women's game.
- Women can now have more free time as the 'traditional' British ideology of now disappearing from society. This allows them to participate in sport.
- Reduced stereotyping surrounding females in sport allows women to partici have been seen as masculine.
- Schools, clubs and the FA are encouraging women to participate in football, money to the women's game.
- Money is being invested into getting more wome[illegible] learn their coaching an
- Development programmes to advance w[illegible] to high-level officiating (F
- Women's education in recent [illegible]s given them the opportunity to train allowing them to have [illegible] in sport.

2.
- In twenty-first century sport, professionalism and amateurism no longer cor
- [illegible] sports however, are still associated with certain classes, e.g. boxing w classes.
- Being a professional athlete is now a viable career path due to the increased
- There are cases where top-level athletes are still not considered 'profession Olympics are considered amateurs.

3.
- During WWI, women were encouraged to help in the war effort while men v
- This led to increased levels of skill and involvement in work for women.
- Following the war, the efforts of women in factories and other roles change weak sex to an ever-increasingly strong sex.
- As a result, sport became more acceptable for women to play.
- There was increased development of female-only sports/bodies, e.g. 1969 V

4.
- Women now have the same rights as men.
- Women have the same working hours and pay as men, allowing them to par
- There is increased media coverage of female sports.
- Sports are now a viable career choice for women (as athletes, doctors, coac
- Wimbledon now has the same prize money for men and women.
- Sports stars such as Serena Williams are now seen as role models for wome
- More women are identified for their physical prowess (e.g. Serena Williams)

Section C:

1.
- **Stereotyping/discrimination:**
  - Female sports stars are seen by some as being too masculine or unfem
  - Some sports are seen as being male-only (e.g. boxing) or female-only (
  - There is a lack of interest / media coverage because of the assumption entertaining as male sport.
- **Participation rates:**
  - Sport is still dominated by [illegible] which may decrease opportunities fo
  - This is because [illegible] interest is still heavily placed on male sport

2.
- In 1880, the Amateur Athletic Association was created. It was not until 1922 [illegible] was established. This delayed the involvement of women in athl
- [illegible]n were seen as inferior competitors to men; as such, women were no (i.e. in the same competitions). This is the reason why a separate Women's A
- More 'strenuous' events, such as the 800 m race, were deemed to be too ha compared to men. As such, when women competed in athletics, they were events, limiting their involvement and participation.
- Before government funding in sport, athletes who wanted to travel globally financial backing from 'trust funds'. Despite some financial restrictions being both men and women to compete internationally, with the opportunity to w
- Since 1950, female involvement in athletics has increased exponentially, wit events, such as World Championships and the Olympics. This has allowed w their sporting success. They can choose to be an athlete as a financially viab become role models, encouraging the next generation of female athletes.

Exam-style Questions:

AS Level Paper 1:

1. **Maximum 3 marks from the following (AO2): Describe the benefits received as a**
- Sponsorship opportunities have increased due to athletics being shown mor
- Increased funding through media involvement and sponsors allows athletes
- Increased opportunities for other roles post competing, e.g. pundits.
- Increased financial income allows athletes to spend more time focusing on t
- Sponsors provide free equipment and clothing to competitors.
- Any other suitable answer.

Maximum 3 marks from the following (AO3): Explain the benefits received as a
- Commercialisation can result in an income, which can help with purchasing fees, training fees and anything else required to be successful.
- Gifted athletes are targeted by media and sponsors and invested in, so they the levels of performance, seeing more medals in major events, such as the
- Increased success of the sport increases attendance, further increasing med involvement.
- Becoming an expert within the field of athletics (i.e. having won titles and m becoming heavily involved in the sport even after they retire; for example, r sport pundits or are guests in the studio to offer their opinion. This, th of commercialisation, and in the commercial industry.
- Accept any other suitable answer.

A Level Paper 1:

1. Maximum 4 marks from the following. Sub-max 2 marks awarded for AO1, and su
- (Definition) amateur – someone who took part in sport for the enjoyment o
- (Definition) professional – someone who competed in sport for financial gai
- The working class accounted for the majority of professionals because they for their families (AO2)
- The upper and middle classes accounted for the majority of amateurs becau money from sport (AO2)

Topic 8: Sociological Theory Applied to Eq

Section A:

1.
   - **Society** – a group of people who are linked to each other by a common purp
   - **Socialisation** – the learning that takes place whereby members of a society l that are suited for their particular society
   - **Social processes** – the actions or sequences of events that take place in soci split into social control and social change**.**
   - **Social issues** – any issues that arise within a society that may affect the coh
   - **Social structures/stratification** – a form of inequality whereby society mem hierarchy based on their socio-economic status

2.
   - **Primary** – the early learning that takes place in chil od whereby you learn society from significant others. In young chil nc significant others are clo
   - **Secondary** – the learning that take ri eenage years and adulthood. In become significant others

3. Any of the foll ng cept other suitable answers.

   Fitn
   - ed strength
   - Increased flexibility
   - Increased cardiovascular endurance
   - Increased muscular endurance
   - Increased power
   - Increased speed
   - Better body tone/shape
   - Reduced BMI

   Health
   - Reduced financial pressure on the NHS
   - Elevates self-esteem
   - Reduced risk of developing cancers
   - Lowers risk of depression, stress and anxiety
   - Reduced risk of cardiovascular disease
   - Reduced risk of obesity
   - Reduced risk of bone disease / problems such as osteoporosis

   Social
   - Opportunities to make friends
   - Helps to create a positive body image
   - Improved sleeping patterns and quality of sleep

4.
   - Sport England works alongside local partners (e.g. individual counties – county s develop in a way that suits the county's demographic
   - Local partners distribute wealth, knowledg t to schools, organisations participation in sport.
   - National partners receive f r other support from Sport England to reach charities (e.g. Str es) that target issues in sport across the nation.
   - Nationa bodies (NGBs) oversee one particular sport across the whole an and develop participation in their individual sport.

Section B:

1. Accept other suitable sporting examples.
   - **Social control** – the methods in which societal values and views are upheld
   - e.g. a society having a widespread view that men should only participate in football, and should not participate in gymnastics or netball
   - **Social change** – when a society recognises and acts upon a change in values of the society
   - e.g. football clubs supporting the Stonewall (rainbow laces) campaign, to he support the LGBT society

2.

Reasons for inequality	Conseque
Stereotyping, sexism and homophobia	People may feel that they are not welcome they believe there is an underlying prejudic community.
Socio-economic status	Some people may not be able to participat commitments.
Lack of role models in sport	Some people, for example women and peo be aware of role models that they can relat may not have a target to strive for (e.g. to b
Lack of confidence	People who do not have a support network participate in sport at all due to being shy, l

3. **Social action theory**
- Sport depends on the social interactions people have within a society
- Sport and society are maintained by growth of one another
- Sport develops alongside a developing society

The interactionist approach
- A study that looks at how individual people behave within a society
- Dependent on the degree of cooperation and harmony between individuals
- Largely speaking, people's behaviour stems from the society they are in
- Humans are able to modify society to a degree through communication and

Effects of sport on society and of society on sport
- A positive society creates positive attitudes towards sport
- Positive experiences of sport can create positive relationships within society
- Sport may be determined by the most powerful people in a society (e.g. pol poorer societies)
- Sport can be changed to mirror the society it appears in

4. Accept suitable examples.
Equal opportunities – the lawful right of an individual to exist within society with
e.g. allowing everyone to join a running club, regardless of their background or hi

Discrimination – unfairly distinguishing between people based on age, sex or rac
e.g. not allowing people of a particular ethnic background to join your sports club

Stereotyping – creating an unfair, biased view of someone based on a particular
e.g. believing that women do not have the physical attributes to play rugby becau

Prejudice – holding an unjustified view of someone, with no evidence
e.g. a coach not treating a black athlete in the same manner as a white athlete

Section C:

1. Accept other suitable answers.

Group	Reasons	Solutio
Disabled athletes	• Some disabled people may feel that they are not capable of being physically active. • Some facilities do not have the provisions required by disabled individuals. • Some sports have a lack of disabled role models; however, recent Paralympic Games have increased the number of disabled role models which has driven up participation rates. • Disabled sport receives less media coverage which negatively impacts on participation.	• Providing ada facilities and allow disable to participate • Increase fund disabled spor • Increase med of disabled sp • Promote role within disabl (e.g. Paralym • Promote posi image of disa athletes

Group	Reasons	Solutio
Disabled athletes (cont.)	• Stereotypes about what sports are appropriate for disabled athletes may prevent them from taking part in physical activity. • Some disabled individuals may require assistance from their family in order to allow them to participate in physical activities. • A disabled athlete's leisure time may depend on their family, especially if they require full support to participate. • Individuals who acquire a disabili[illegible] may be unfamiliar with the op[illegible]s available for di[illegible]pation in sport. • [illegible]ople are educated about disabled sport, they will be more likely to take part. • If a disabled person is unable to work, they may not have the disposable income to participate in sport. • Sports can be adapted in order to make them suitable for disabled athletes.	• Increase train coaches work disabled athle • Educate peop disabled spor • Design and pr better techno disabled spor sport-specific wheelchairs)
Ethnic Groups (i.e. race, religion or cultures)	• Racial discrimination in some sports still exists which may be an inhibiting factor to some races' involvement in that sport. • Sport has seen an increase in role models from diverse backgrounds, which increases participation in those sports. However, some sports have fewer role models, e.g. there are few black swimmers. • Religious restrictions can impact participation rates in sport. For example, strict Christians and Orthodox Jews may not participate in sport on their holy days. • Sports that do not receive media coverage will be disadvantaged and may impact participation rates of all groups. • The stereotypical idea that some races are suited to certain sports can prevent people from trying different [illegible] • Traditional views, such as women having to wear co[illegible] clothing, can restrict pa[illegible]pation in some sports. • [illegible]e cultures value spending time with the family very highly. As a result, there is likely less time available to be physically active. • Some individuals may have less leisure time to take part in physical activity due to religious commitments, such as attending services and prayer. • Some sports make rule changes to accommodate religious practices, such as Muslim women being allowed to cover their heads when playing football.	• Ban or fine at display any fo racism / preju towards peop particular eth • Promote grou tackle racial is Kick It Out in • Develop a nat curriculum th for people of religions and • Educate peop different relig cultures • Providing fem sporting sessi swimming po allow people religions to pa accordance w religious belie • Further devel religion / cult sport clothes burkini) which women to co while maintai modesty

Group	Reasons	Solutio
Gender	• The activities that men and women take part in can be affected by how they view those activities, e.g. women might be less likely to take part in rugby if they view it as masculine. • The lack of female role models portrayed in the media has a negative impact on participation. • There may be a lack of opportunity for some females to access certain sports, such as female rugby teams. • Female sport receives less media coverage, which negatively impacts on participation. • Gender stereotyping still exists with some sports. For example, some may argue that boxing is a masculine sport. However, with an increase in female role models and media coverage in these sports (for example, Nicola Adams), this is continuing to improve. • In modern times, being a mother and wife (i.e. a 'traditional' role) is no longer seen by many as a woman's primary role, in mainstream British Culture. As a result, women have more opportunities to be physically active, beyond their role as mothers and wives. • In the past, women generally had less free time due to family commitments. This has now changed due to parenting and household responsibilities being equally shared in many modern British households. As a result, women are able to participate in sport as much as men. • The compulsory inclusion of Physical Education in the National Curriculum in schools means both genders are exposed to physical activity. • The wage gap between men and women is no longer as prominent, providing women with greater opportunities to take part in physical activity.	• Promote fem models in spo • Provide gend sessions (e.g. sessions) • Promotion of balanced hou sharing house chores) • Increase med of female spo • Educate peop stereotyping • Provide gend facilities (e.g. rooms) • Increase fund female sport
Di ag c economic status)	• People may not be able to afford to participate in sp • Some sports require expensive additional equipment (e.g. fencing) which only the wealthy can easily afford • Families may have to spend additional income on more important things, such as childcare • Some sports are synonymous with certain socio-economic status (e.g. polo for the wealthy and boxing for the poorer)	• Increase fund wealthy areas • Subsidise cost gyms / sports etc. • Encourage a c society with p a mixture of s economic bac

2. Possible content may include:

Knowledge of socio-economic status effect:

- Why socio-economic status is a factor, i.e more money = more money avail
- Money is available for buying equipment, access to facilities, paying for me

Application:

- Those in managerial, administrative and occupational roles are most likely t inactive (17%)
- Those who don't work or who are unemployed are more likely to be inactive
- Intermediate occupations, small employers and own account workers, and l occupations all have similar results for inactivity, i.e. 23–27%, and activity, i.

Evaluation of NS-SEC participation rates:

- This suggests that those from a higher socio-economic status are more activ likely to be inactive than any other group.
- Those from the lowest are most inactive ... ea ctive.
- Suggests that money is a signifi ... nt ... tor to activity participation leve

Exam-style Ques ... :

AS Leve ... 1:

Knowledg ... 1)

- Knowledge of the reasons for low participation rates for ethnic groups in sport, e.g. do not exist in some sports / religious restrictions / lack of media coverage / stereoty views / lack of free time dedicated to physical activity / religious commitments
- Knowledge of the possible solutions to low participation rates for ethnic groups in sp display forms of racism or prejudice / promote groups such as *Kick It Out* / develop for all religions or cultures / educate people about religions and cultures / provide fe development of religion / culture-specific sportswear that allows everyone to partici

Application (AO2)

- e.g. previous high-profile cases of discrimination in sport may cause a decrease in pa as they feel they are not welcome to participate in physical activity. However, promo backgrounds will encourage people to participate in sport.
- e.g. traditional religious or cultural views, such as maintaining the modesty of wome women of certain religions may think there are not sufficient provisions in place to a could be overcome by providing female-only sessions in sports such as swimming, to while also following their religious beliefs.

Evaluation (AO3)

- e.g. the low percentage rate of Asian women in sport (26.1%) may be due to fear of populations of people to not participate in sport, if this negative attitude towards sp such as 'Say no to Racism' encourage people to speak out against racism and encour to encourage Asian women to get more involved in sport.
- e.g. participation rates have been shown to be low within religious groups. For ex participation rate of Muslim women is 25.1%. This may be due to religious beliefs clothing). National partners such as Sporting Equals help ... promote sport within numerous projects set up to engage people of diff ... re ... cultural backgrounds to p a positive image of sport within these co ... mu ... ties.
- e.g. participation rates have be ... n shown to be low within religious groups. For ex participation rate.
- e.g. there is evi ... den ... that there are fewer opportunities for people from BAME c car ... is ... y give the impression that BAME candidates are disadvantaged w Impl ... ng rules such as the 'Rooney Rule' in NFL (whereby a minimum of one for each senior coaching position) gives candidates a fair opportunity to be consi

Level	Marks	Description/guidance	
4	7–8	Comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demonstrating link between factors and their impact. Appropriate terminology is reliably used throughout. Proven rational structure provided, with focused and clear answer.	
3	5–6	Usually uses comprehensive and precise knowledge. Application and range of knowledge are often displayed. Analysis and/or evaluation is often articulated well demonstrating link between factors and their impact. Appropriate terminology is often used throughout. Rational structure provided with focus and clear answer, most of the time.	
2		Sometimes uses comprehensive and precise knowledge. Application and range of knowledge are sometimes displayed. Analysis and/or evaluation is sometimes articulated well, demonstrating link between factors and their impact. Appropriate terminology is sometimes used throughout. Rational structure is provided, with focused and clear answer, some of the time.	
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge are displayed restricted or not apparent. Analysis and/or evaluation is often not articulated well, with little to no demonstration of appropriate terminology occasionally used throughout. Rational structure is not provided and answer is not focused and unclear.	
0	0	No relevant answer provided.	

A Level Paper 1:

Knowledge (AO1)

- Knowledge of the reasons for low participation rates for disabled athletes / gende thinking they are not physically able to participate in sport / inadequate facilities coverage / stereotyping / lack of leisure time or reliance on others / lack of educa lack of disposable income / gender stereotyping / family commitments.
- Knowledge of the possible solutions to low participation rates for disabled athlet providing adapted facilities / increase funding / increase media coverage / promo body image / educate people / design or implement better technology to aid par only sessions and facilities

Application (AO2)

- e.g. a lack of adapted facilities and equipment enabling disabled athletes from co participating altogether and therefore decide not to try any other sports.
- e.g. women may not participate in their favourite sports – for example, rugby – b such as rugby are masculine.

Evaluation

- e.g. disabled athletes may feel there are not enough role models being promoted may reduce participation rates as young people do not have famous disabled ath in popularity of the Paralympic Games and Invictus Games highlights the support achievements they can make in sport, encouraging young disabled people to part programmes are also supported by the English Federation of Disability Sport.
- e.g. the lack of female role models portrayed in the media has a negative impact have anyone to aspire to. Organisations such as Women in Sport work to empow help create positive female role models in sport.

Level	Marks	Description/guidance
5	13–15	The student demonstrates detailed and accurate knowledge of participation rates of groups in sport and physical activity. The analysis between factors or topics. Terminology is used reliably and correctly throughout. The answer has a clear structure, and good writing skills are us
4	10–12	The student largely demonstrates detailed and accurate knowl low participation rates of groups in sport and physical activity, student can sometimes perform accurate analysis between fac Correct terminology is sometimes used. The answer demonstrates some structure and good writing ski throughout.
3	7–9	The student often demonstrates det and accurate knowle low participation rates of gr in ort and physical activity, shown. The studen mes perform analysis between may be lac Co nology is sometimes used. nswer sometimes demonstrates structure and writing ski throughout.
2	4–6	The student sometimes demonstrates knowledge of the cause rates of groups in sport and physical activity, with little or no r student may not be able to demonstrate analysis skills. Correct terminology is sometimes used. The answer occasionally demonstrates structure and writing sk
1	1–3	The student sometimes demonstrates a lack of knowledge of t participation rates of groups in sport and physical activity, with shown. The student may not be able to demonstrate analysis s Correct terminology is sometimes used. The answer occasionally demonstrates structure and writing sk
0	0	No relevant answer provided.

Topic 9: Diet and Nutrition for Physi

Section A:

1. 1 = Carbohydrates
   2 = Proteins
   3 = Fibre
   4 = Fats
   5 = Water
   6 = Minerals
   7 = Vitamins
   8 = Fats
   9 = Carbohydrates
   10 = Protein
   11 = Fibre

2.

Component of diet	Dietary source
Carbohydrates	Potatoes, rice, pas
Proteins	Meats, cheese, nu
Fats	Butter, cheese, confectionery,
Minerals	Vegetables, nuts, milk
Vita	Fish, milk, liver, veget
Fibre	Brown rice, cereals, pot
Water	Water / sports dri

3.
   - Trans fat – a type of unsaturated fat that is commonly added to food items
     - Trans fats are often added to foods to preserve their shelf life
     - Largest source comes from hydrogenated vegetable oils
     - Associated with high cholesterol and coronary heart disease
   - Saturated fat – a type of fat that is considered to be the 'bad fat'. It is found
   - Saturated fats are associated with weight gain, high blood pressure and high disease
   - Cholesterol – a fat that is waxy in texture. It is produced by the liver. Cholest either high-density or low-density lipoproteins (HDL and LDL)
     - Cholesterol is carried in the bloodstream by lipoproteins
     - LDL cholesterol is known as 'bad' cholesterol as it builds up in arteries a heart disease
     - HDL cholesterol is known as 'good' cholesterol because HDL cholestero transports it back to the liver, where the low-density lipoproteins are b

4.
   - Fat-soluble vitamins (vitamins A, D, E and K) are absorbed by fat and stored releases the vitamins into our bodies. Excess fat-soluble vitamins are stored
   - Water-soluble vitamins (vitamin C, Vitamin B12 and B-complex vitamins) are fruit and vegetables. They are used by the body when digested (not stored). stored by the body and so are excreted. Therefore, these vitamins need to b

5. **Description:**
   - Carbohydrate loading is the practice of consuming high amounts of carbohyd events.
   - Carbohydrate loading occurs in the week prior to an event.
   - This will deplete stores of glycogen at the start of the week and then before the event, while reducing training loads.
   - It allows athletes to fill their muscle and liver stores of glycogen.

   Benefits (any two from):
   - Maximises the amount of energy available for an event, increasing endurance
   - Delays the onset of fatigue
   - Increases ability to synthesise glycogen

6. Accept any from:
   - Creatine
   - Sodium bicarbonate
   - Caffeine
   - Glycogen loading
   - Accept any other suitable examples.

Section B:

1. **Vitamin C:** aids in the creation of blood vessels and cells and helps to maintain he
   aids in the renewal of cells and helps to maintain healthy bones and connective ti
   Vitamin D: helps the body to absorb calcium, which supports healthy bones, redu
   Vitamin B12: aids the nervous system by maintaining its health. It also aids in the
   B-complex vitamins: aid in the maintenance of the ne[illegible] system (B1 and B2), h
   to create energy for exercise (B1 and B2), help[illegible] energy from carbohydrate
   create haemoglobin to carry red blood c[illegible] (B
   Sodium: maintains the corre[illegible] viscosity and concentration. It also allows fo
   sodium is required to [illegible] electrical impulses.
   Iron: is the m[illegible] component of haemoglobin, which is the protein that carries oxy
   boc[illegible] exercise.
   Calc[illegible] lps to maintain strong bones, allowing physical activity to take place v

2. **Before**: 2–3 hrs before event: early consumption to aid digestion. Foo
   During event: water and fluids to ease digestion and maintain energy levels.
   sports drinks and energy gels.
   Post-event: ideally up to 45 mins after event. Meals high in carbohydrates
   also be beneficial to aid recovery.

3. **Creatine:**
   - Creatine raises levels of phosphocreatine and, therefore, the synthesis of en
   - More phosphocreatine is available for the ATP-PC system.
   - Creatine increases power and strength.
   - The body is able to utilise the ATP-PC system for longer.
   - Creatine is used by athletes concerned with strength and power (high intens
     players.

   Caffeine:
   - Caffeine is a stimulant of the central nervous system.
   - Stimulation of the nervous system means there is a lower perceived effort o
   - Caffeine increases alertness and awareness. It also increases fat metabolism
   - It is used by athletes who want increased awareness, e.g. sprinters, cyclists,

   Sodium bicarbonate:
   - Sodium bicarbonate is an alkali that acts to buffer lactic acid.
   - More anaerobic exercise can be completed before fatigue.
   - It is used by athletes working at moderate- to high-intensity exercise, e.g. m

4. - Being well-hydrated allows an athlete to maintain their blood viscosity (thick
   - Maintaining blood viscosity allows blood to move more freely around the bo
     of the skin, to lose heat through sweating, convection and conduction. This
   - Maintaining blood viscosity through good hydration allows blood to flow eas
     [illegible] muscle cells.
   - [illegible]hon runners lose fluids through sweat during the race so hydration m
   - Runners should be well-hydrated prior to the race to maximise cognitive and
   - Throughout the race, marathon runners should replace lost fluids using isot
     from exercise and give an athlete a boost of energy from carbohydrates.
   - Following a race, hypertonic drinks should be consumed to quickly replace l

5.
- Glycogen loading is started approximately one week before performance.
- First day: aerobic, endurance-style activity is completed in an attempt to de
- Days 2–3: athlete consumes a diet comprised of high amounts of fat and pro
- Fourth day: aerobic, endurance style activity is completed again.
- Final two days: the amount of training is reduced, but the intensity of exerci
- Final two days: the athlete consumes a diet very high in carbohydrates, to fill

Section C:
Reference must be made to the Olympics.

1.
- Creatine:
  - (Positive) Raises levels of phosphocreatine and, therefore, in
  - (Positive) Promotes muscle hypertrophy
  - (Positive) Prolongs the period of time the ATP-PC system can
  - (Negative) Creatine causes the performer to retain water (i.e temporary weight gain (due to water), bloating and vomiting/di
  - (Negative) Does not positively influence aerobic performanc
- Caffeine:
  - (Positive) Lowers perceived effort of exercise
  - (Positive) Increases alertness and awareness
  - (Positive) Increases fat metabolism
  - (Negative) Can cause dehydration through the diuretic effec
  - (Negative) Can cause shaking of hands / inhibits fine motor c
  - (Negative) Can cause heart problems in high doses
- Sodium bicarbonate:
  - (Positive) Buffers the effect of lactic acid, delaying the fatigu allowing performers to compete at higher intensities, for lon
  - (Negative) Short-term effects such as diarrhoea, vomiting an

Do not accept glycogen loading as a 'nutritional supplement'.

2. Hydration:
  - (Positive) Maintains low levels of blood viscosity
  - (Positive) Maintains body temperature
  - (Positive) Maintains body fluids (counteracts sweating)
  - (Positive) Replaces lost fluids, electrolytes and energy stores (e drinks)
  - (Negative) Can cause excessive urination if too much fluid is
  - (Negative) Can cause dehydration if the wrong sports drinks very high levels of sugar)
  - (Negative) If consumed excessively, too much fluid can cause threatening

Exam-style Questions:
AS Level Paper 1:
1. Any 2 marks from the following:
- Supports muscle growth (AO1)
- Supports muscle repair (AO1)
- Provides minor source of energy when fat and glycogen are depleted (AO1)

A Level Paper 2:
1. Max 6 marks awarded for question. 2 marks awarded for AO1, 3 marks awa AO3.

Content that could be covered is as follows. Accept other suitable answers.

Knowledge (AO1), e.g. knowledge of glycogen loading, using simple statements
- Glycogen loading is started approximately one week before performance.
- First day: aerobic, endurance-style activity is completed in an attempt to de
- Days 2–3: athlete consumes a diet comprised of high amounts of fat and pro
- Fourth day: aerobic, endurance style activity is completed again.
- Final two days: the amount of training is reduced, but the intensity of exerci
- Final two days: the athlete consumes a diet very high in carbohydrates, to fill

Application (AO2), e.g. Identified application of glycogen loading for a decathlo

- Glycogen loading fills energy stores prior to a race, allowing the runner to st stores to last throughout the race.
- Tapering allows the athlete to be well trained and physically ready for sport,
- The excess carbohydrates are stored in the liver as glycogen, ready to use d

Evaluation (AO3), e.g. Evaluation of glycogen loading for performance for a dec

- Despite the benefits of carbohydrate loading in terms of energy stores, an i can cause nausea or a feeling of fullness during the marathon.
- The timing of tapering must be perfect to benefit the athlete. This can be ha train at different rates and intensities.
- Other components of a diet (e.g. proteins and fats) must still be consumed and healthy.

Level	Marks awarded	Description
	7–8	Usually uses comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demonstr impact. Appropriate terminology is reliably used throughout. Proven rational structure is provided, with focused and
3	5–6	Usually uses comprehensive and precise knowledge. Application and range of knowledge are often displayed Analysis and/or evaluation is often articulated well, dem their impact. Appropriate terminology is often used throughout. Rational structure is provided, with focused and clear ar
2	3–4	Sometimes uses comprehensive and precise knowledge. Application and range of knowledge are sometimes disp Analysis and/or evaluation is sometimes articulated wel and their impact. Appropriate terminology is sometimes used throughout Rational structure is provided, with focused and clear ar
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge displayed are restri Analysis and/or evaluation is often not articulated well, appropriate terminology occasionally used throughout. Rational structure is not provided, and answer is not foc
0	0	No answer or suitable information given.

Topic 10: Preparation and Training Method
Maintain Physical Activity and Perf

A: Principles of Training and Training Metho

Section A:

1.

Component of fitness	Definition
Aerobic endurance	The ability of the cardiovascular system to transpo under sustained exe
Anaerobic power	Maximal power that is produced as a result of ana exercise.
Muscular endurance	The ability of a m..sc..r g..oup of muscles to rep
Muscular strength	ab..y of a muscle or group of muscle
Flexibility	..he ability to move a limb or body part thr

2.
- iti.. ..he number of times a task (normally lifting weights) is repeat
- a specified number of repetitions that make up one set

3.
- **S**pecificity – any training that an athlete completes should be relevant to the
- **P**rogressive **O**verload – athletes should slowly increase the intensity and fre positive adaptions from training. This is achieved through the principle of FI
  - **F**requency – the number of times an athlete trains should be increased
  - **I**ntensity – the intensity of training should be gradually increased (how
  - **T**ime – the amount of time spent training should gradually increase (ho
  - **T**ype – providing training is still specific, a variety of training methods s and develop numerous positive adaptions (how they train)
- **R**eversibility – if training stops for any reason (e.g. lack of motivation or inju training will be lost
- **R**ecovery – all athletes should have the opportunity to rest and recover ade adaptions will not occur if the athlete is fatigued or injured as a result of lac

4.
- **Interval training**
  - **Outline:** the athlete works at very high intensity followed by periods of sprints followed by periods of walking
  - **Component of fitness:** anaerobic power
- **Continuous training**
  - **Outline:** exercise is completed for long periods of time with no breaks. or repetitive motions (e.g. running, swimming or cycling)
  - **Component of fitness:** aerobic endurance
- **Fartlek training**
  - **Outline:** the athlete repeatedly changes the speed at which they are tr of games (e.g. football and rugby)
  - **Component of fitness:** aerobic end.. ran..e
- **PNF training**
  - **Outline:** a pass.. stre.. is performed with a partner to the limit of a j relaxed .. ..e. ..is process is repeated, encouraging the joints to incre
  - **Co.. ..t of fitness:** flexibility
- **.. training**
  - **Outline:** numerous workstations in which a different activity is comple with a short break between stations. For example, station 1 could be b station 3 could be skipping.
  - **Component of fitness:** muscular endurance (can also be used to train adapted)

Section B:
Apply principles of training.

1. (i)
   - **S**pecificity – any training that an athlete completes should be relevant
   - **P**rogressive **O**verload – athletes should slowly increase the intensity an positive adaptions from training. This is achieved through the principle
     - **F**requency – the number of times an athlete trains should be incr
     - **I**ntensity – the intensity of training should be gradually increased reps and sets they do and the weight they lift.
     - **T**ime – the amount of time spent training should gradually increas
     - **T**ype – providing training is still specific, a variety of training meth motivation and develop numerous positive adaptions (how they t weight machines, combining body wei orkouts with resistanc
   - **R**eversibility – if training stops for a y r as (e.g. lack of motivation o training will be lost
   - **R**ecovery – all ath s ld have the opportunity to rest and recove Positive ad il not occur if the athlete is fatigued or injured as W tr ng should allow the athlete to recover between sessions, ow body on alternate days.

General rules for improving maximal strength with weight training:

	Maximum
Load	85–95% of one-rep max
Reps	1 to 5 of each exercise
Sets	2 to 3 of each exercise
Work:relief	1 to 3
Recovery	4–5 mins between sets

(ii) Adaptations for muscular endurance could include:
- Reduce load (one-rep max)
- Increase number of reps and number of sets
- Reduce amount of rest periods and length of rest periods
- Train more frequently (training with lighter weights will, to some degre intense and causes less muscle fibre damage)
- Accept any other suitable answers

General rules for improving muscular endurance using weight training:

	Endurance
Load (of max.)	50–75%
Reps	15 to 20
Sets	3 to 5
Work:relief	1 to 2
Recovery	30–60 seconds

2.
- Fartlek training is speed play whereby an ath te alternates the speed durin intense speed.
- Therefore, for a track ci s re sprinting is an important component o suitable form f n.

3.

Training method	Sport that would use the training method	
Continuous training	e.g. rowing / distance cycling / marathon running / long-distance running / other suitable answer	• Long-dis • High ae • Mimics t
Fartlek training	e.g. rowing / distance cycling / marathon running / long-distance running / other suitable answer	• Distance • Event re at the e
Circuit training	e.g. distance cycling / long-distance running / other suitable answer	• Targets • Targets • Improve
Interval training	e.g. weightlifting / rugby / football / high jump / [illegible] jump (power-based sports) / other suitable answer	• Mimics followed standing • Allows f periods • Good fo
Weight training	All sports, depending on the strength requirements of that sport (e.g. muscular endurance – rowers, explosive strength – weightlifters)	• Strength • Increase • Increase
Proprioceptive neuromuscular facilitation (PNF)	e.g. gymnastics / dancing / diving / other suitable answer	• Sport re • Sport re through • Sport ca this prev

Section C:

1. **Knowledge of circuit training**
   - Circuit training involves completing different exercises at different stations
   - At each station, workouts can target different muscles / different types of tr

Application to team sport (e.g. hockey)

- Circuit training can involve working different muscles used in a specific team s
- Circuit training can target muscular endurance which is important for hockey p
- Circuit training can develop strength required for muscular endurance.

Evaluation/analysis of how effective this is for team sport of choice

- Circuit training is suitable due to the changes and adaptations that can be ma sports and positions within those sports.
- Circuit training improves muscular endurance, which will help the athletes th competition/game.

Considerations to consider for training programme

- **Intensity** – the amount of work completed by an individual can be changed exercise at each station
- **Duration** – duration of the exercise can be tailored to advance strength end
- **Period of intervals** – rest between stations. Short breaks help muscular endura strength.
- **Number of work/relief intervals** – changing the balance of rest to exercise station and type of strength being worked.

Students should identify that any athlete can benefit from circuit training as long principles they will have identified below.

2.
- Athletes from all sports would want to complete flexibility training – therefo training.
- Flexibility training will help those whose sporting success is based on flexibil
- Flexibility training will help those whose sports require any element of flexib
- Physiological benefits or adaptations from flexibility training:
  - Increased range of movement
  - Reduced risk of injury
  - Increased range of movement due to upkeep of synovial fluid
  - Elastic properties of muscles improved (reduced injury, greater range o
  - Lengthened connective tissues at rest
  - Increased muscle length

Exam-style Questions:

AS Level Paper 1:

1. Maximum 3 marks from the following:
   - Circuit trainin[illegible] develop muscular endurance, which is a key perfor
   - [illegible] training can be adapted to change the intensity or type of activities in [illegible]e tailored to the athlete (AO2)
   - The circuit can be adapted so that each station works different groups of mu wide range of muscles and rest different parts of their body (AO2)

A Level Paper 2:

1. Maximum 4 marks from the following:
   - (Frequency) – increasing number of sessions a week will progress positive ad
   - (Intensity) – increasing the intensity (i.e. how hard the athlete works) allows challenging, leading to progressive overload (AO1)
   - (Time) – increasing time spent in each session (e.g. 45 minutess to one hour muscular endurance to improve (AO1)
   - (Type) – using a variety of training methods can promote motivation and de (AO1)

Topic 10: Preparation and Training Method
Maintain Physical Activity and Perf

8: Key Data Terms, Warm-ups, Cool-downs and Pe

Section A:

1.
- Microcycle – The shortest period of training, which lasts up to a week
- Mesocycle – Made up of a number of microcycles and tends to last a month
- Macrocycle – Longest periodisation phase, made up of numerous mesocycle

2.
1. **Preparatory phase** – Mainly preseason, focus is placed on bringing fitness le break. Aerobic training, strength and conditioni[illegible] skill-based practice.
2. **Competitive phase** – Occurs throughout [illegible] petitive season, focused or levels. Tapering may occur to redu[illegible]g volume and reduce chance of
3. **Transition phase** – Peri[illegible] following competition, is focused on an at the competitive [illegible] May take part in low-intensity aerobic work, to reh

3.
- [illegible]ty – the degree to which a test measures what it sets out to measure a
- [illegible]lity – the level of 'repeatability' of a test and whether the test can be the same, or similar, results each time.

4. Light aerobic activity, e.g. jogging, running, high knees, until heart rate has gradu
Stretches, e.g. stretching of the hamstrings or other muscles that are going to be
Sport-specific drills, e.g. ball skills, passing drills

Section B:

1. (i) Type of stretch: Dynamic stretching
Sport/performer: Footballer; warming up the muscles used for sport-speci

(ii) Type of stretch: Passive stretching
Sport/performer: Tennis; an injury on court may require attention off the c injury or stretch out the muscle

(iii) Type of stretch: Static stretching
Description: Trampolining; to ensure the maximum range of moveme

(iv) Type of stretch: Isometric stretching
Description: Weightlifters; as it's against an immovable object or forc

(v) Type of stretch: Ballistic stretching
Sport/performer: Gymnast

2. a. Quantitative; objective
b. Quantitative; subjective
c. Qualitative; subjective
d. Quantitative; objective

3.
- Endurance athletes [illegible]uld r[illegible]uce training volume approximately 3 weeks pr longer perio[illegible]d[illegible]n[illegible]n-endurance events).
- [illegible]ing [illegible]d occur after a final training session that replicates the exercis [illegible] competitive event.
- [illegible] example, a marathon runner reducing the number of training sessions c training, still running distances at paces equal to that during a competitive e whereby they are at peak physical and mental preparation for performance.

4.
- A shot-putter (non-endurance event) would taper between 1 week and 2 we
- Tapering would occur after a final training session that accurately represent
- For example, reducing the number of training sessions completed per week, throwing distances they would want to achieve during competition. This wo are at peak physical and mental preparation for performance.

5. Accept other suitable examples.

Stage 1 – Cardiovascular exercise

- (Example) e.g. slowly jogging around the pitch

Stage 2 – Stretching

- (Example) e.g. static stretching – stationary calf stretches
  e.g. active stretching – stretching the hamstrings by contracting t
  e.g. passive stretching – stretching the hamstrings by using a wall
  against it)

Stage 3 – Specific movement patterns

- (Example) e.g. passing, shooting and dribbling skills

Physiological benefits of warm-ups

- An 'anticipatory rise' will occur, whereby a release of adrenaline stimulates
  increases blood flow to working muscles through increased heart rate an
- Muscles become more elastic due to stretching, increasing the range of mov
  possibility of injury.
- Increased reaction and response times due to increased speed of nerve imp
- Increased muscle temperature increases the pliability of muscles, making th
- Increased synovial fluid production lubricates joints and allows them to mov

6. The following points should be given. Accept other suitable answers.

- Gradually reduces heart rate and breathing rate to retain blood flow and ox
  muscles.
- Allows the body to recover some of the oxygen debt that has built up during
- The continuation of elevated blood flow through the body also allows waste
  the body (i.e. carbon dioxide and lactic acid).
- Maintaining elevated venous return prevents blood from pooling in veins, w
- Cool-downs can reduce the effects of DOMS in the hours following exercisin
  transport of nutrients.

Section C:

1. Student's answers to include any of the following points, plus any other suitable

Knowledge of periodisation:

- Macrocycle – overall training aim of player (approx. one year). Made up of s
- Mesocycle – approximately one month in length. Contains broader training
- Microcycle – approximately one week in length. Consists of training specific

Knowledge of phases of training:

- Preparatory phase – mainly preseason. Focus on fitness.
- Competitive phase – mesocycles in the middle to end of the year leading up
- Transition phase – final mesocycles of the year following competition. Prior

Application of periodisation and phases of training to athletics:

- (Macrocycle) may be to win major tournament (e.g. Wimbledon)
- (Mesocycle) development of a particular fitness component (e.g. arm power
- (Microcycle) could involve weight training for a week to improve arm power
  the following week
- (Preparatory phase) – general conditioning, aerobic endurance and muscu
  intensity jogs
- (Preparatory phase) – specific training areas targeted, increase in training fre
- (Competition phase) – increase in training frequency and intensity; specific t
- (Competition phase) – athlete takes part in smaller completions (i.e. Queens
- (Competition phase) – training tapers to reduce frequency, but maintains in
  ment, but without risking injury (e.g. Wimbledon)
- (Competition phase) – peaking at the right time for the tournament
- (Transition phase) – athlete recovers and rests from season, allowing body t
- (Transition phase) – may include some light aerobic work to maintain fitness

Evaluation of the importance of periodisation and phases of training:

- Reduces risk of injury
- Allows athlete to peak at the right time – macrocycle peak
- Reduces the chances of athlete burning out, by adapting the intensity and fr
- Keeps the athlete motivated
- Allows athlete to change their specific focus continually to optimise perform
- Accept any other suitable evaluative statement.

Exam-style Questions:

AS Level Paper 1:

1. Information (data) that is based on personal opinions. It is open to interpretation

A Level Paper 2:

1. Maximum 3 marks from the following:
   - An 'anticipatory rise', caused by a release of adrenaline, will trigger the sym heart rate and breathing rate, delivering more oxygen to the working muscl
   - Muscles become more elastic due to stretching, increasing the range of mov likelihood of injury. (AO3)
   - Warm-ups help to increase the speed of nerve impulses through the nervou reaction and response times, giving them the edge over their opponents. (A
   - Increased muscle temperature increases the pliabili of muscles, making th risk of injury. (AO3)
   - Increased synovial fluid production lubricates joints and allows them to mov make more fluid movements during exercise. (AO3)

Topic 11: Biomechanical Principles, Lever
Technology

Section A:

1. (i) **Newton's first law (inertia)** – An object will stay at rest, or in a constant stat
unbalanced external force.
(ii) **Newton's second law (acceleration)** – An object will accelerate in the same
object. The amount of acceleration is proportional to the force applied to it
(iii) **Newton's third law (action / reaction)** – For every action/force, there is an

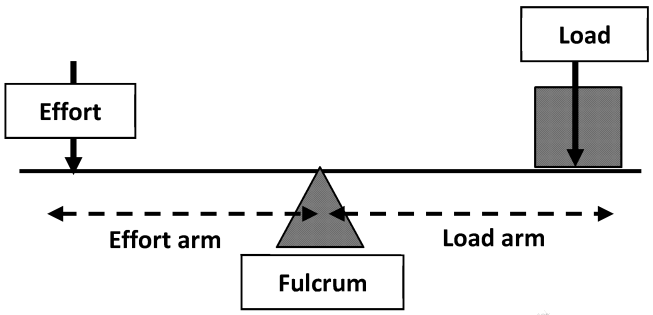
2. (i) **Force (N)** = mass (kg) × acceleration (m/s^2)
(ii) **Weight (N)** = mass (kg) × acceleration due to gravity (9.8 m/s^2)
(iii) **Acceleration (m/s^2)** = change in velocity (m/s)/tim
(iv) **Speed (m/s)** = distance (m) / time (s)
(v) **Distance (m)** = speed (m/s) × time

3.

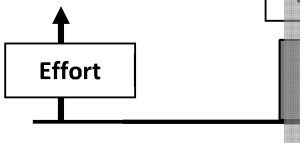
te	Definition
orce	The sum of forces acting on an object
Balanced force	A force acting on an object is equalled by another force o opposite direction.
Unbalanced force	The forces acting on an object are not equal, creating mo
Weight	The force produced by gravitational acceleration on an ob
Reaction	The force exerted that opposes the original force (equal a
Speed	The rate at which something or someone can change posi
Distance	The length of the route that a person has travelled betwe

4. Centre of mass is the single point where all the mass of an object appears to be c

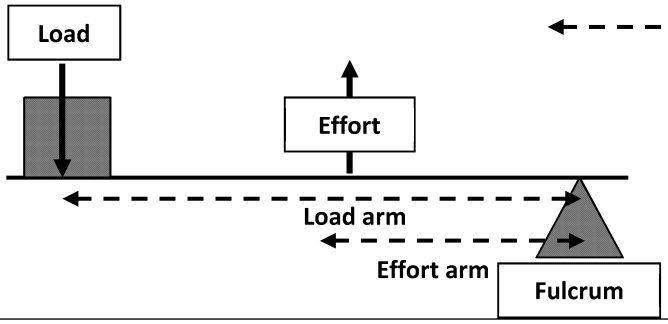
5. (a) First-class lever



(b) Second-class lever



(c) lass lever

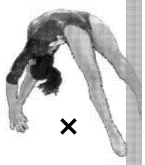


Section B:

1. Accept appropriate answers, e.g.
   - **Newton's first law** = a golf ball is at rest on the ground (constant acceleratio strikes the ball with a force.
   - **Newton's second law** = a basketball player shoots a free throw. The ball tra the force his arm is applying to the ball. The more force the player applies t
   - **Newton's third law** = A tennis player strikes the ball during a forehand. The from the racket (action) is equalled by the force the tennis ball will force bac

2. - Weight (N) = mass × acceleration due to gravity
   - Weight (N) = 118 × 9.8
   - Weight (N) = 1156

3. The centre of mass is located outside just outside of her body, in the gap between her upper leg and the back of her neck.



4. - **Second-class lever system**
     - Mechanical advantage as the effort arm is greater than the load arm
     - Allows large loads to be moved with a small effort, e.g. at the ankle du
   - **Third-class lever system**
     - Mechanical disadvantage, as the load arm is greater than the effort arm
     - Which means force can be applied with speed, e.g. when lifting a dumb-b

5. (i) First-class lever system
   (ii) Third-class lever system
   (iii) Second-class lever system

Section C:

1. - Low body position – the boxer can crouch slightly, this lowers their centre o
   - Wide base of support – by widening their stance, the boxer increases their s line from the centre of mass) can more easily remain within the base of sup
   - Keeping two feet planted on the floor – the more contact points with the flo of support to maintain stability.
   - Enter the ring at the maximum weight (without exceeding the weight class) stability, due to inertia (the resistance of the body to be knocked over).

Exam-style Questions:

AS Level Paper 1:

1. Maximum 2 marks. 1 mark awarded for AO2, and 1 mark awarded for AO3. Units
   - Speed is constant during this time at 12 m/s; time period is 4 s; 12 m/s × 4 s
   - 48m (AO3)

A Level Paper 2:

1. Maximum 4 marks (AO1) from the following:
   - An object will stay at rest, or in a constant state of motion, unless acted on b law) (1), such as the hockey ball stays stationary until the player strike also accelerate in the same direction as the force applied to the object, tional to the force applied to it (1), as seen when the hockey ball con direction as the force applied to it by the hockey stick (1).

Topic 12: Psychological Factors that Influenc

A: Aspects of Personality, Attitudes, Motivation and So

Section A:

1. • A trait is an enduring quality that categorises an individual, that is usually ge

2. • The nature vs nurture debate is a psychological trail of thought that persona and learning / external factors and influences (nurture).
   • The 'nature' side of the debate argues that personality is innate and cannot
   • The 'nurture' side of the debate states that personality is a result of learning result of our parents and friends on our personality.
   • Trait theory, social learning theory and the interactionist approach are all ba

3. (i) Behaviour = function of personality
   (ii) Behaviour = function of enviro...
   (iii) Behaviour = function o... (pe... ...ty × environment)

4. Attitud... ar... ...g emotional feeling that affects the response given to a stim

5. • ...ation is the willingness of an individual to perform a particular behavio
   • The two types of motivation are intrinsic and extrinsic.

6. • Tangible rewards are materialistic rewards, e.g. money, trophies.
   • Intangible rewards are non-physical rewards, e.g. praise from a coach, hand

7. • Social facilitation – the benefit performing in front of an audience has on a p
   • Social inhibition – the negative impact performing in front of an audience ha

8. • **Affective** – the emotional reaction an individual holds towards an attitude o
   • **Behavioural** – how an individual acts towards an attitude object
   • **Cognitive** – the individual's thoughts towards an attitude object

9. In any order:
   • **Personality type** – Extroverts are more likely to form positive attitudes towa suited to sports than introverts.
   • **Social influences** – A person is more likely to copy, or be influenced by, the p If their peers have particular attitudes towards sport, they are more likely to
   • **Personal experiences** – Positive experiences or emotions from sport are like towards the sport, as the athlete will want to feel these emotions again.
   • **Conditioning** – If certain attitudes are reinforced by others, the person is mo or have this attitude again.

Section B:

1. 1. **The core** is the footballer player's innate beliefs and values and is resistant t e.g. the footballer player is a natural leader and... ...going person; they comp
   2. **Typical responses** are how the player usually responds to particular situatio e.g. the player shouts at his te... ...s to up their game after falling behind
   3. **Role-related behaviour** is how the player would adapt their natural respons current situa...
   The ... changes their behaviour to become a calming presence when ... bad refereeing decisions

2. (i) The coach could train and condition the player to respond to particular envi This minimises the risk of the player losing their temper / becoming aggress different situations.
   (ii) The coach could remove the player from any potential situations that may c example, in a local derby, the coach identifying that it is getting a bit heated before they get involved.
   (iii) The coach could recreate triggering situations that normally cause aggressio safe training environment. This allows the player to get used to these situati particular ways.

3.
- Evaluation apprehension is an athlete perceiving that an audience is judging
- The perception negatively affects performance as athletes feel they are und decrease in performance is magnified in fine, complex skills.
- It causes increased arousal levels and decreased performance as athletes st cognitive symptoms of anxiety, e.g. butterflies and increased heart rate.

4.
- **Personality type** – attitude is dependent on the personality of an individual. positive attitude towards sports.
- **Social influences** – individuals are more likely to mimic the attitudes of thos learning). Therefore, if a person is surrounded by people who participate in participate too.
- **Personal experiences** – if an individual has had a positive experience towar likely to have a positive attitude towards the same experience in the future. occurred, they are more likely to have a negative attitude towards it in the f positive experience of sport, they are more likely to continue in the sport or
- **Conditioning** – reinforcement can be used to stimulate certain attitudes towar promotes a positive attitude towards something. Punishment can promote something. Therefore, positive reinforcement helps to encourage athletes t

5.
- Intrinsic motivation is motivation that comes from within the performer.
- Performers will use intrinsic motivation to reach their set targets. For motivation for training because they know it will eventually help them to wi
- Some performers will use intrinsic motivation to maintain involvement in th find it fun and enjoyable.

6.
- Extrinsic motivation comes from sources of motivation external to the perfo
- Extrinsic motivation can be used to reinforce positive behaviour in an athlet gymnast with a certificate or verbal praise after they have successfully perfo
- Extrinsic motivation is made up of tangible (materialistic rewards) and intan rewards.

7. **Complex**
- Having an audience leads to social inhibition.
- Complex skills require more attention due to the multitude of actions involv

Simple
- Increased arousal leads to social facilitation.
- Simple skills are more autonomous and so require less attention.

Fine
- Increased arousal leads to social inhibition.
- Fine skills require higher levels of decision-making and accuracy, which is opt

Gross
- Increased arousal levels lead to social facilitation.
- Gross skills do not require high amounts of cognitive processing to perform.

8. **(1) Persuasive communication:**
- This is using communication to persuade an individual to change their
- If the young boy is willing to change his behaviour, persuasive communic
- The coach is of a higher status than the young boy. Therefore, the you
- The rugby coach's message must be clear, accurate and concise, so tha information.
- Communication must occur in a friendly and positive environment, so t experiences and is more likely to change his attitude.

(2) Cognitive dissonance:
- This means creating an imbalance in the beliefs of performers, causing attitudes (dissonance). It is caused by creating conflicting opinions of s will attempt to reduce stress by changing their attitudes (cognitive, be likely they will improve their attitude towards sport.
- The rugby coach could point out there are different positions in rugby t he is not always going to be involved in physical contact.
- This creates dissonance in the young boy.
- The young boy agrees to give rugby a try, playing on the wing.

Section C:

1. Students to identify different personalities (extroverts and introverts) and different stage and experts/associative stage) and identify how an audience influences their

Introverts:

- The audience increases arousal and leads to social inhibition, which can dec
- They struggle to perform at high levels of arousal because of the symptoms cognitive thinking inhibited (e.g. tactical moves).

Extroverts:

- The audience increases arousal, leading to social facilitation, which increase
- They perform well under high levels of pressure/arousal as they rise to the

Beginners (cognitive stage of learning):

- The audience increases arousal, leading to social inhibition, which can decre
- High arousal levels reduce the focus they have to complete the skill, inhibiti performance of skills and tactics

Experts (associative stage of learning):

- The audience increases arousal, leading to social facilitation, which increase
- Their focus is concentrated on completing the task and so they are unaffected by a performance levels.

Students to assess strategies a coach could use to minimise social inhibition and athletics performance:

- Ensuring the performer attends to the important cue, not the audience, e.g. own performance just before a race, and not paying attention to the crowd
- Mental rehearsal, e.g. the sprinter mentally rehearses their take-off from the b
- Using self-talk to increase confidence, e.g. sprinter telling themselves 'you c
- Using relaxation techniques to lower arousal, e.g. the sprinter using deep br arousal levels
- Positive reinforcement
- Over-learning skills so that they become autonomous, e.g. a high-level high they know they can automatically perform a high jump to a high standard
- Goal setting, e.g. a high jumper setting a minimum height to jump in their co event. Goals should be attainable or stress will rise if they do not complete

2. Students should identify potential strategies a coach could use to either support particular situations in sport.

1. Strategy

- Removing a player from the field of play / environment as the coach kn actions from their player

Link to the interactionist approach (Hollander model)

- Core – the coach identifies the player's core personality and behaviour

Sporting example

- e.g. a coach substituting a football player from the field because a foul coach knows there is a high chance the player will lash out in frustratio

2. Strategy

- Recreating certain situations in training and getting the player to contr situation

Link to the interactionist approach (Hollander model)

- Core – the coach identifies the player's core personality and behaviour
- Typical actions – the coach identifies how the player would normally situation/environment

Sporting example:

e.g. in training, having a defender hold onto the player / get in their wa player how to deal with the defender, instead of acting aggressively to

3. Strategy

- A coach encouraging a change in player behaviour to achieve a desired

Link to the interactionist approach (Hollander model)

- Role-related behaviour

Sporting example

- e.g. the coach making the football player team captain and training the calm team talks should a negative situation arise, such as going two go response of getting frustrated and angry

3.

Types of people	Passive/ interactive	Effect of an audience on performance of complex skills for novice athletes	Effect of an audienc on performance of simple skills for elit athletes
Competitors	Interactive		
Social reinforcers	Interactive		
Audience	Passive	Social inhibition	Social facilitation
Co-actors	Passive	Social inhibition	Social facilitation

Exam-style questions:

AS Level Paper 1:

1. Maximum 2 marks awarded for AO1 and maximum 2 marks awarded for AO2
   - Social facilitation – the benefit that performing in front of an audience has o
   - Social inhibition – the negative impact that performing in front of an audien
   - Social facilitation – elite players or athletes completing simple tasks (e.g. a c facilitation because they can easily perform the task in the presence of pres
   - Social inhibition – an audience can cause social inhibition when athletes are play in netball) or the athlete is a novice/beginner because they will not be a in the presence of an audience (AO2)

   Accept other explanations of how both factors can impact on the performance of using sporting examples.

A Level Paper 2:

1. Maximum 2 marks for AO1, 3 marks for AO2 and 3 marks for AO3. Maximum 8 m

AO1 knowledge of intrinsic and extrinsic motivation

- Intrinsic motivation originates from sources within the performer.
- Extrinsic motivation originates from sources external to the individual.

AO2 – Application of intrinsic and extrinsic motivation to 100 m sprinter

- The athlete wants to feel pride (intrinsic) and satisfaction from successful pe
- The athlete may feel intrinsic motivation from kinaesthetic appreciation of t
- The source of extrinsic motivation could be reinforcement from another per
- Tangible rewards are materialistic rewards, e.g. money or trophies from win
- Intangible rewards are non-physical rewards, e.g. praise from a coach. (AO1
- Extrinsic rewards may come from money provided by sponsorship deals.

AO3 – Impact of intrinsic and extrinsic motivation

- Personal goal-setting can be used by athletes to maintain intrinsic motivatio for feelings of satisfaction and achievement, e.g. getting a quicker time, gett
- Intrinsic motivation can encourage task persistence as the athletes strive to b in a good place in the race such as in the top three.
- Extrinsic motivation can sometimes be overused and relied upon, reducing m
- Extrinsic motivation can undermine intrinsic motivation.
- If used too much, extrinsic motivation can put emphasis on winning, reducin environments, such as during training.

Level	Marks	Description/Guidance
4	7–8	Comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demonstrati impact. Appropriate terminology is reliably used throughout. Proven rational structure is provided, with focused and cle
3	5–6	Usually uses comprehensive and precise knowledge. Application and range of knowledge are often displayed. Analysis and/or evaluation is often articulated well, demon and their impact. Appropriate terminology is often used throughout. Rational structure is provided, with focused and clear answ
2	3–4	Sometimes uses comprehensive and precise knowledge. Application and range of knowledge are sometimes displa Analysis and/or evaluation is sometimes articulated well, d factors and their impact. Appropriate terminology is sometimes used throughout. Rational structure is provided, with focused and clear answ
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge displayed are restricte Analysis and/or evaluation often not articulated well, wit appropriate terminology occasionally used throughout. Rational structure is not provided and answer is not focuse
0	0	No answer or suitable information given.

Topic 12: Psychological Factors that Influenc

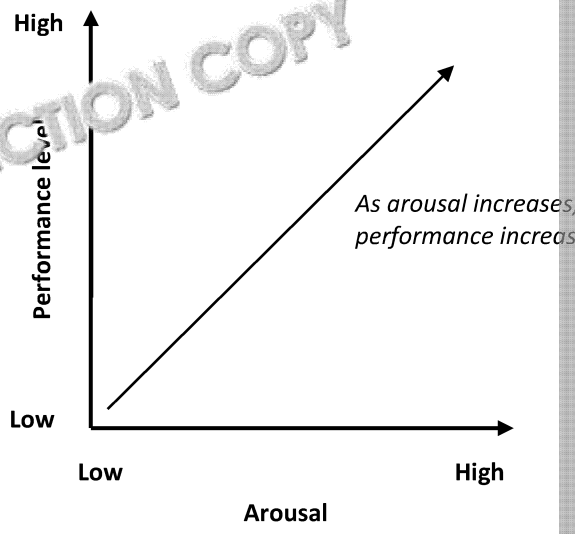
B: Arousal, Anxiety and Aggression

Section A:

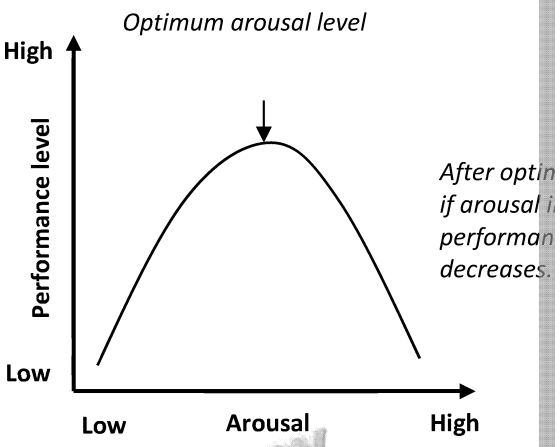
1. **Arousal** – the raised state of psychological and physiological readiness
   Anxiety – the feeling of apprehension when faced with a stimulus that is perceive
   Aggression – behaviour that aims to harm others by breaking the laws of the gam

2. Students to draw graphs similar to ones below and identify the relevant theories.
   comments.

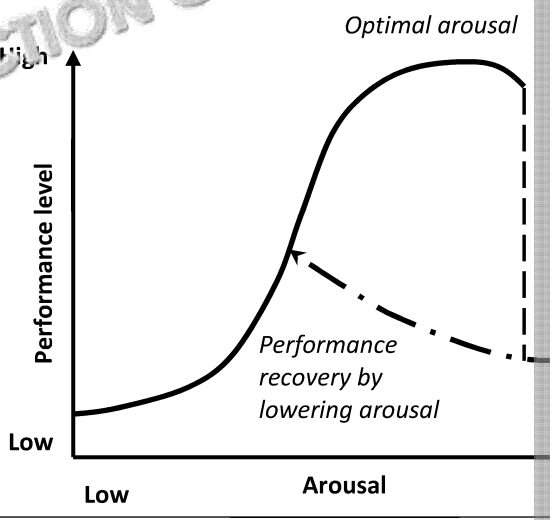
Drive theory:



Inverted-U theory:



Catastrophe theory:



3. • **Competitive state anxiety** – how an individual reacts to a specific stressful s
a stressful situation.
• **Competitive trait anxiety** – the tendency of an individual to react to a stressfu
innate response people have to situations. People with high trait anxiety are m
situations.

4. • **(Hostile) Aggression** – aggressive behaviour that falls outside of the laws of
the belt'. It has the intent of harming an opponent.
• **Assertive behaviour** – forceful behaviour in order to achieve a goal which d

5. Any of the following four theories of aggression:
(i) Instinct theory (Lorenz, 1966)
(ii) Aggressive cue hypothesis (Berkowitz, 1969)
(iii) Social learning (Bandura, 1977)
(v) Frustration-aggression hypothesis (Dolla[illegible] al [illegible]939)

Section B:

1. (i) **Drive theory:**
• Dr[illegible] suggests that as arousal increases, performance (dominan
[illegible]n [illegible]thlete with higher levels of performance will have stronger domin
[illegible]n athlete with a lower ability will have a weaker dominant response.
• For example, as a gymnast prepares to compete in the Olympics, their
level will also rise as a result.
• However, drive theory does not account for optimal arousal levels or o
performance will infinitely increase with an increase in arousal.

(ii) **Catastrophe theory:**
• Catastrophe theory considers both somatic and cognitive anxiety and t
• It suggests that as cognitive anxiety increases, so does performance, p
• However, if both cognitive and somatic anxiety levels are high, there w
('catastrophe') in performance levels.
• For example, after a pep talk in the changing rooms, a footballer is hig
towards the opposing team's goal – they are playing very well. Howev
and within a few minutes of the game they perform a dangerous tackl
• Performance levels can be recovered following a 'catastrophe' providi
and controlled.

2. • A novice rugby player is playing in a match.
• During the first few minutes of the match, their arousal levels increase increas
• At a certain point, they will play at their optimum level of performance – th
• This is known as their optimum arousal level.
• This excitement can increase their arousal past the 'optimum arousal level'.
• As a result, their performance starts to decrease, as they cannot control the

3. **Cognitive:**
• Loss of concentration/focus
• Confusion
• Feelings of uneasiness
• Feelings of weakness
• Indecision
• Feelings of [illegible]ssfied

Som[illegible]
• [illegible]che
• [illegible]scular tension
• Increased heart rate
• Increased ventilation rate
• Increased sweating
• Nausea
• Irritability
• Increased urination
• 'Butterflies' in the stomach
• Loss of appetite

4.
- Zone of optimal functioning suggests that an individual will respond to anxie
- Some individuals will succeed with low levels of anxiety. For example, sport or fine motor skills, such as archery or snooker.
- Some individuals will succeed with high levels of anxiety. For example, spor gross motor skills, such as weightlifting or the shot-put.

Characteristics
- Clear mind
- Total focus / clarity
- Feeling invincible
- Smooth/effortless movement / skill completion
- Positive attitude towards challenges
- Feelings of total control
- Low levels of anxiety
- Accept other suitable answers.

5. (i) Assertive behaviou
(ii) Assertive be[illegible]ur (channelled aggression)
(iii) [illegible]e a[illegible]ression

6. Accept other suitable answers.
- Punishing aggressive behaviour by fining/banning the athlete
- Substitute the players / remove them from competition
- Reinforce good behaviour with awards/praise
- Breathing techniques / controlling aggression
- Apply punishments to all players if they are aggressive
- Discourage aggressive behaviour in training so that it isn't taken into matches
- Give aggressive private conver
- Point out what for aggression
- Educate player behaviour
- Educate player (being forceful

Section C:

1. For each theory, students should briefly outline the theory, provide a sporting ex

Instinct theory (Lorenz, 1966)
Outline:
- Each individual has innate aggressive characteristics that are specific to the i
- It is based on the idea that as humans developed, there was a need to have survival of the human race.
- It is also suggested that aggressive behaviour is always released at some poi

Sporting example:
- A hockey player may regularly punch opponents as part of their individual a hockey player has less (but still present) aggressi[illegible]aracteristics so doesn'
- However, at some point the second play[illegible]l exhibit aggressive behaviour.

Criticisms:
- It is argued that sp[illegible]eads to aggression, not that aggression is inevitable.
- It also do[illegible]s[illegible]t ke[illegible]nto account pre-planned aggressive behaviour.

Agg[illegible]cue hypothesis (Berkowitz, 1969)
Outl[illegible]
- Frustration leads to increased arousal.
- Increased arousal, combined with aggressive cues, leads to an increased rea towards specific cues.

Sporting example:
- An athlete previously had a bad experience playing in cold weather.
- In the present scenario, it is cold again.
- The athlete associates this with bad performance and so increases their rea their frustration.

Criticisms:

- This hypothesis does not take into consideration that athletes may be aggre genuine target for aggression (e.g. a hard, but fair, tackle in football).

Social learning (Bandura, 1977)
Outline:

- Aggression is learned behaviour from observing others in certain situations.
- It suggests that as aggression is learnt, it can be controlled.
- Learners often learn from role models or people of higher status.

Sporting example:

- A young footballer witnesses their role model / footballing hero performing they had fallen out with the same opposing player earlier in the match.
- The learner is now more likely to act aggressively towards their opponents a their role model.

Criticisms:

- The theory does not consider the natural aggressive characteristics of an ind

Frustration-aggression hypothesis (Dollard et al., 1939)
Out

- is a link between frustration and aggression.
- Aggression is solely the result of frustration and aggressive behaviour is inev
- Frustration is primarily caused by something stopping the individual achievi

Sporting example:

- A footballer keeps getting tackled by the same player when they attempt to
- This causes frustration in the player and so there is an increased likelihood o

Criticisms:

- This hypothesis does not consider other sources of frustration (other than g
- Furthermore, aggressive behaviour can occur without frustration occurring

2. The theory does not explain **why** some individuals perform better in certain emo

3. Students should provide a brief description of the three anxiety measures, giving provide any advantages and disadvantages of each method.

Questionnaires, e.g. SCAT/PASAS – a set of questions used to determine the anxi responses
Advantages:

- Quick to complete
- Questions can be changed/altered to suit the situation
- Easy for athletes to understand
- Cheap
- Many athletes can complete at the same time (saving time)
- Any other suitable answers.

Disadvantages:

- Questions / options for answers may be biased (i.e. forcing the athlete to giv
- Can be subjective
- Athlete may not understand the question
- Questionnaires may be completed on a particularly good/bad day for the ath
- Athletes may give answers that they think they should give, instead of being
- Other suitable answers.

Observations – having someone watch the athlete to determine visually their anx
Advantages:

- Quick to complete
- True to life (i.e. a coach / an observer can physically see the results)
- Athletes don't need to give input
- Any other suitable answers.

Disadvantages:

- Observations are subjective (i.e. opinion-based)
- Results will depend on the ability of the coach to correctly identify signs of a
- Observer will need to know what the athlete looks like on a 'normal' day to
- Takes a long time to complete
- Observations in training (controlled environment) may vary compared to ob (uncontrolled) environments
- Any other suitable answers.

Physiological measures – measuring levels of anxiety based on physiological resp situations

Advantages:

- Objective
- Comparisons can be made to control dat
- Measurements are accurate, reli nd id
- Measurements can be g training or during competition to make
- Any other suit s.

Disa ge

- nent can be expensive
- Can be time-consuming
- Coaches/testers need high levels of knowledge
- May take a long time to complete
- Wearing devices / being tested may make the athlete feel anxious, thereby
- Any other suitable answers.

Exam-style Questions:

AS Level Paper 1:

1.
   - Drive theory suggests that as arousal increases, the dominant response incr
   - This means that as arousal increases, so do performance levels. (AO1)

A Level Paper 2:

1. 2 marks for AO1 and 1 mark for AO2:
   - Clear mind (AO1)
   - Total focus / clarity (AO1)
   - Feeling invincible (AO1)
   - Smooth/effortless movement / skill completion (AO1)
   - Positive attitude towards challenges (AO1)
   - Feelings of total control (AO1)
   - Low levels of anxiety (AO1)
   - Any other suitable answers (AO1)
     - e.g. a football player taking a penalty being fully focused on where the and are fully confident they will score / accept er suitable answers

Topic 12: Psychological Factors that Influenc

C: Group Dynamics and Goal Setting in Spo

Section A:

1. A group is a collection of people who work together to achieve a shared goal.

2.
   - Task cohesion concerns the end result of a performance and whether each g team, they succeed)
   - Social cohesion is the level of trust and harmony existing within the team to result. For example, friendships within a team.

3. 1. **Forming:**
      - Group members meet.
      - Interactions cause relationships to f[illegible] with the group.
      - Individuals focus on what the[illegible] individually give to the group.
      - There is a dependen[illegible] the leader.
      - There is a l[illegible] on individual roles.

   2. **Storming:**
      - Leadership styles within the group may clash.
      - Identification of problems occurs as attention is shifted to other teamm individual's contribution.
      - The group begins to identify and share the same goals or aims.
      - The leader delegates and informs the group, much like a teacher.
      - Subgroups may form within the larger group, causing tension within th
      - This is the hardest stage to progress from.

   3. **Norming:**
      - The aims or goals of the group are clear and everybody largely agrees
      - A leader plays less part in the solving of issues, instead the group work
      - This is the problem-solving stage, teammates work together to solve a
      - Members of the group identify what role they play in the group.
      - Team cohesion increases.

   4. **Performing:**
      - The team performs successfully as a group.
      - They perform to achieve a shared goal.
      - Individual members perform individually to help the whole group.
      - Although there is still a leader, they play a small part in success.
      - The team becomes adaptable to overcome arguments or challenges.
      - Delegation of roles and responsibilities is limited as trust has formed b

4.
   - Actual productivity = best potential productivity – losses due to faulty proce
   - Faulty processes are any reasons why a team may not compete to their full
   - Not working to full potential can be due to problems with **coordination** or c
   - Cooperation problems involve the inner harmony of the actual team, i.e. the working together.
   - Coordination problems are when a team do[illegible]play in a sensible, calculated plays a long-ball game when their coach asks them to play short passes on t

5.
   - The Ringelmann effect is the negative effect an increased number of people m[illegible] in a group means other members will make less of an effort)
   - Social loafing refers to an individual's feeling that their role in the group is b sult of more group members.

6. Any five of the following:
   - Helps athlete to understand where they are in development to maintain att
   - Helps athlete to understand where they are going
   - Can be used to motivate an athlete and maintain task persistence
   - Increases concentration of an athlete
   - Can be used to monitor performance/achievements
   - Helps control anxiety and arousal
   - Develops confidence and self-efficacy when goals are achieved

7.
- Specific – goals should have a specific aim or target to focus the athlete's atten
- Measurable – a measurable goal allows the athlete to monitor their own pr
- Achievable – providing the goals are challenging, they should also be achiev maintains motivation and increases their confidence.
- Redo – goals that have not yet been achieved or are increasingly difficult sh be made and the athlete has another go!
- Time-bound – any goals that have been set should be given a time limit. Thi the athlete to complete the task.
- Evaluate – an athlete and coach should be able to evaluate the progress of t or are on target to meet, the goals. This allows the coach and athlete to ide tailor the sessions to the athlete.
- Redo – if an athlete does not reach their goal, or progress has plateaued, th situation the goal could be changed to make it more achievable. Alternative training methods used to reach it may alter to be more suit the athlete.

Section B:

1. **Benefits of goal-setting:**
- Maintains and increases motivation of the athlete
- It keeps relevant tasks in focus (goals should be specific to aid this)
- Helps develop *task persistence* – the drive to reach a target, no matter wh
- Athletes get a sense of achievement when they reach the target
- Increased confidence in reaching the next target

Outcome goals:
- Goals that are concerned with the success or failure of performance or mee
- They do not take into consideration whether a task or skill was performed c
- e.g. a 100 m sprinter reached their target of finishing in the top three times

Task-orientated goals:
- Goals that are focused on the quality of performance produced, not solely th
- Tend to have a focus on the technical aspects of skill / event performance
- e.g. a swimmer reducing their 100 m sprint time by half a second by improving t

Performance-related goals:
- Goals that focus on improving an athlete's own previous, personal performances
- Performance-related goals are not concerned with the performance of other com
- e.g. a marathon runner with a goal of beating their time in the same race fro

Process goals:
- Goals that rely on improvements in technique, to benefit the overall performanc
- e.g. a rugby prop with a goal of improving their scrum positioning (i.e. angle scrummaging performance

2. Students should cover the following points. Accept other suitable answers.
- Increase their confidence by listening to what role they prefer in a team / th
- Increase their confidence by praising good performance and pointing out sp
- Ensure the player feels valued within the team
- Make the player aware of their role and importance in the team
- Set the player targets/goals to maintain their motivation and focus
- Try to prevent cliques forming within the team which may make them feel exc

3. Students should name each principle of SMARTER and provide suitable examples, such as tho
- Specific: e.g. a tennis player is aiming to break into the top 100 ranked playe
- Measurable: e.g. the specific goal is easily monitored by observing ra
- Achievable: e.g. the tennis player has the time, motivation, ability and resou state-of-the-art performance analysis and courts.
- Redo: goals that have not yet been achieved or are increasingly difficult sh be made and the athlete has another go!
- Time-bound: e.g. the tennis player has a short-term goal of winning 70% of is reaching their ranking goal.
- Evaluate: e.g. the tennis player reached their target of hitting 80% of their fi come together to talk about how they achieved this target (e.g. methods of ensure these same methods are used for future goals.
- Redo: e.g. the tennis player doesn't seem to be progressing any further and winning 90% of rallies in which they serve, in the given time frame. The coac target is remaining the same (redo and try again) but that the training meth encourage progression.

Section C:

1. Students should identify the four stages of group cohesion – identifying how coh
performance each stage has.

Forming:

Cohesion:

- Group members meet, nobody has a strong leadership role and group cohes
introduce opportunities for social interaction.
- Interactions cause relationships to form within the group – the first signs of
- Individuals focus on what they can individually give to the group.
- If a leader is present, members are dependent on the leader.
- There is a lack of clarity on individual roles. The coach should give defined r

Influence on performance:

- Group performance is weak as only basic relationships have been formed.
- Team members act individually, some success may occur, this will b
performance (i.e. a good player) not team performance
- Group productivity is

Sto

Coh

- Leadership styles within the group may clash, potentially causing a drop in c
should ensure all members have the opportunity to voice opinions.
- Identification of problems occurs as attention is shifted to other teammates' con
solving phase of the group, helping cohesion as strengths and weaknesses of me
- The group begins to identify and share the same goals or aims, increasing co
end-goal identified by effective coaching.
- The leader delegates and informs the group, much like a teacher, this increa
and members are not jostling for power.
- Subgroups may form within the larger group, causing tension within the gro
the leader should break up any cliques that have formed.

Influence on performance:

- Generally, an increase in performance occurs as members begin to work tov
- Members identify the strengths and weaknesses within a team, so as a team
these obstacles, increasing team performance.
- The emergence of a leader allows other members to focus on the task at ha

Norming:

Cohesion:

- The aims or goals of the group are clear and everybody largely agrees with t
works towards the same, shared goal.
- A leader plays less part in the solving of issues, instead the group work democ
increases cohesion as a sense of team community is developed and successes
- At the problem-solving stage, teammates work together to solve any issues fr
cohesion through a sense of team achievement. The coach should ensure opp
- Members of the group identify what role the player in the group, allowing th
everybody plays their part in team performance/success.

Influence on performance:

- Team performance increases as every member shares the same goals.
- Leadership is less important as the members of a team work together during
- Member of the team play their individual roles, allowing the success of the
- Group productivity is high.

Performing:

Cohesion:

- The team performs successfully as a group.
- They perform to achieve a shared goal.
- Individual members act/perform independently to help the whole group.
- Although there is still a leader, they play a small part in success. This create allowing everyone to feel valued.
- The team becomes adaptable to overcome arguments or challenges, meani team, not individuals.
- Trust develops within the group as athletes carry out their individual roles.

Influence on performance:

- Performance increases as the group works wholly as a team to achieve succ
- Members fully understand their role and conti perform this role to b
- Trust within the group increases perform each member can focus th worrying about helping others required).
- Group productivity is hi

Exam-st es :

AS Level 1:

1. (d) Forming, storming, norming, performing (AO1)

A Level Paper 2:

1. See guidance table below for marking guidelines. The following content could be answers. 2 marks for AO1, 3 marks for AO2 and 3 marks for AO3.

Knowledge (AO1): identified reasons for, and benefits of, goal-setting, using si

- Specific – goals should have a specific aim or target.
- Measurable – a measurable goal allows the athlete to monitor their own pr
- Achievable – providing the goals are challenging, they should also be achiev
- Recorded – goals and achievements should be recorded (linked to 'measura
- Time-bound – any goals that have been set should be given a time limit.
- Evaluate – an athlete and coach should be able to evaluate the progress of t or are on target to meet, the goals.
- Redo – if an athlete does not reach their goal, or progress has plateaued, th

Application (AO2): Application of goal-setting

- Specific – ensures they are training appropriate weaknesses, e.g. power for
- Measurable – ensures they can keep track of their progress.
- Achievable – ensures players have the time, motivation, ability and resourc gym to complete weight training to improve power.
- Recorded – ensures they can record their performance in matches, such as
- Time-bound – ensures there is a set time to complete this by, e.g. the next
- Evaluate – the coach and athlete come together to talk about how they ach practice and training methods) and ensure these same methods are used fo
- Redo – if the athlete did not achieve their goal, such improving power in together with their coach to change the met se to try to achieve thei same, but the methods should be alt re in order to achieve the desired go

Evaluation (AO3): Linked e nd discussion

- Specific – this s the athlete's attention on the important issues.
- ur etes can compare their performances and determine whe ivate them.
- vable – the athlete maintains motivation and increases their confiden
- Recorded – to increase motivation and persistence and to monitor success.
- Time-phased – increases motivation and urgency of the athlete to complete
- Evaluate – allows the coach and athlete to identify successful training metho
- Redo – the goal could be changed to make it more achievable, or the goal m methods used to reach it may alter to better suit the athlete.
- Applying principles can significantly improve training and performance (perf focus, allowing identification of areas for improvement that can be addresse high levels of motivation and inspiration to become a better athlete, e.g. th their hard work (outcome goals).

Level	Marks	Description/Guida
4	7–8	Comprehensive and precise knowledge. Clear application and range of knowledge displayed. Analysis and/or evaluation is articulated well, demons impact. Appropriate terminology is reliably used throughout. Proven rational structure is provided, with focused an
3	5–6	Usually uses comprehensive and precise knowledge. Application and range of knowledge are often display Analysis and/or evaluation is often articulated well, d and their impact. Appropriate terminology is often used throughout. Rational structure is provid[illegible]ith focused and clear
2	3–4	Sometimes uses c[illegible]eh[illegible]sive and precise knowled Applicati[illegible]ra[illegible]of knowledge are sometimes d A[illegible]/or evaluation is sometimes articulated w [illegible]s and their impact. Appropriate terminology is sometimes used througho Rational structure is provided, with focused and clear
1	1–2	Comprehensive and precise knowledge is restricted. Application and range of knowledge displayed are res Analysis and/or evaluation is often not articulated we appropriate terminology occasionally used throughou Rational structure is not provided and answer is focus
0	0	No answer or suitable information given.

Topic 13: The Role of Technology in Physical

Section A:

1.
- **Quantitative data** – data that comprises numbers. It is normally objective in
- **Qualitative data** – data that is recorded using words instead of numbers. It
- **Objective** – data that is factual and not open to interpretation.
- **Subjective** – data that is based upon feelings, emotions or opinions; it is, the
- **Validity** – the degree to which a test measures what it sets out to measure.
- **Reliability** – the degree to which a test could be repeated on numerous occa results every time (i.e. the 'repeatability' of a test).

2.
- To observe technique during sporting movements
- To identify aspects of performance, such as techni that could lead to inj
- To assess the gait (walking or running mo of athletes
- To study match day performance
- To study an opponent's performances
- To measure key variables of athletes (e.g. power and flexibility)

Section B:

1. Example answers given below. Accept other suitable examples.

Term	Example in sport
Quantitative data	Timing the speed it takes someone to run 100 m, using tim
Qualitative data	A coach writing down skills that a hockey player needs to i
Objective data	The distance a footballer covers during a football match, m
Subjective data	A coach observing a rugby player during a match and ratin
Validity	Using a metabolic cart (indirect calorimetry) to measure th dioxide that are inspired and expired during exercise.
Reliability	A shot-putter throwing nearly the same distance over thre and using a tape measure to measure the distance thrown

2. A metabolic cart (indirect calorimetry)

3. The leaflet could cover the following points:
- (Problem) Work not being password protected
- (Problem) Lost work through not backing-up data
- (Problem) Losing work due to computer viruses
- (Problem) Human error when inputting data to a system
- (Strategy) Apply passwords to computers or files to ensure no one else can
- (Strategy) Regularly make copies of work and data
- (Strategy) Don't access or download potentially l ul files from the Inter on the computer
- (Strategy) Have a secondary pe nfi data that is inputted, to reduce
- (Strategy) Locking awa or files so no one else can access them

Section C:

1. **Positives**
   - Accurately measures gas percentages inspired and expired during exercise
   - Helps to determine the efficiency of an athlete's cardiorespiratory system
   - Can be used while running on a treadmill or cycling on an ergometer
   - It is a valid and reliable test
   - Accept other suitable answers.

   Negatives
   - The equipment used is expensive
   - The mask or helmet used could make an athlete feel uncomfortable
   - Expert knowledge is required to run and interpret test results
   - Cannot be used while performing sport-specific skills (i.e. can only be used f running or stationary cycling)
   - Gases may escape from the equipment, making results inaccurate
   - Accept other suitable answers.

2. •
   - (Use) measures distance, speed and direction covered by an athlete (Explanation) this allows the work rate and speeds and directions of the athl (Example) a footballer's total distance covered in a match, along with speed whether they are performing to their full capability
   - (Use) measures how much G-force an athlete experiences during exercise (Explanation) this allows coaches and athletes to determine whether the ath much pressure and rectify this
     (Example) the force a rugby player experiences during a tackle can be monit

Exam-style Questions:

AS Level Paper 1:

1. Maximum 2 marks from the following (AO1):
   - Validity – the degree to which a test measures what it sets out to measure (
   - Reliability – the degree to which a test can be repeated on numerous occasi results every time (AO1)

A Level Paper 2:

1. Maximum 4 marks from the following (AO1):
   - Apply passwords to computers or files to ensure no one else can access the
   - Regularly make copies of work and data
   - Do not access or download potentially harmful files from the Internet
   - Install antivirus software on the computer
   - Lock away computer or files so no one else can access them
   - Accept other suitable answers.