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About the qualification - Overview

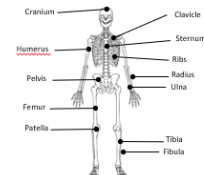
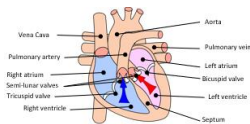
Exam board - Pearson Edexcel GCSE PHYSICAL EDUCATION 2016

<https://qualifications.pearson.com/en/qualifications/edexcel-gcses/physical-education-2016.html>

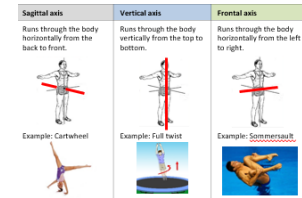
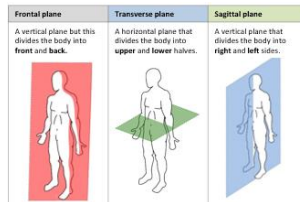
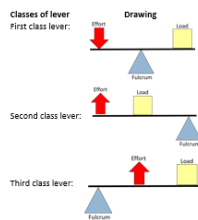
Component 1 - Fitness and Body Systems

Written examination: 80 marks - 1 hour 30 mins 36% of the qualification

Topic 1: Applied anatomy and physiology



Topic 2: Movement analysis

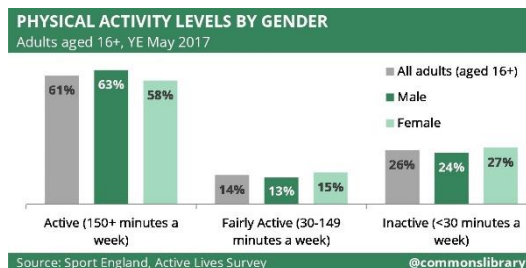


Topic 3: Physical training

Component	Definition	Sporting Example	Component	Definition	Sporting Example
Body Composition	The percentage of a body that is fat, muscle, bone and water.		Coordination	The ability to move two or more body parts at the same time.	
Muscular Strength	The amount of the force muscles can generate against a resistance.		Reaction Time	The time taken for a response to occur after a stimulus.	
Muscular Endurance	The ability to use voluntary muscles, over long periods of time without getting tired.		Agility	The ability to change direction at speed.	
Flexibility	The range of movement at a joint.		Balance	The ability to keep the body steady when in a static position or when moving.	
Cardiovascular fitness (aerobic endurance)	The ability of the heart and circulatory system to meet the demands of the body for a long period of time.		Speed	The time taken to cover a set distance/complete a movement.	
			Power	The ability to combine speed and strength.	

Beta Blockers	Slows heart rate, calms and steadies hands	Lowers blood pressure and oxygen delivery to muscles	Target sports	
Anabolic Steroids	Promote muscle growth and promotes a faster recovery time	High blood pressure, aggressive behaviour & develops male features	Power Events - 100m	
Narcotic Analgesics	Masks pain and increase pain threshold	Vomiting, addiction and liver/kidney damage	Any athlete wanted to mask pain.	
Diuretics	Rapid weight loss from removal of fluids. Masks other PEDs	Dehydration, nausea and headaches. Heart and kidney failure.	Jockey Boxing	
Stimulants	Increased alertness and reduce tiredness	Heart rate irregularities & increased aggression.	Boxing 100m sprinter	
Peptide Hormones	EPO - increase Red Blood Cell production Growth Hormone - increase muscle mass	Increased blood thickness/blood clot Abnormal growth		

Topic 4: Use of data



Assessment overview Multiple-choice, short-answer, long-answer and one extended writing question.

Section A Questions are focused on Topic 1: Applied anatomy and physiology and Topic 2: Movement analysis.

Section B Questions are focused on Topic 3: Physical Training.

Section C One extended-response questions related to Topic 3 Physical Training.

Topic 4: Use of data is embedded throughout the paper where appropriate.

Students must answer all questions

Component 2: Health and Performance

Written examination: 1 hour and 15 minutes 24% of the qualification

Topic 1: Health, fitness and wellbeing

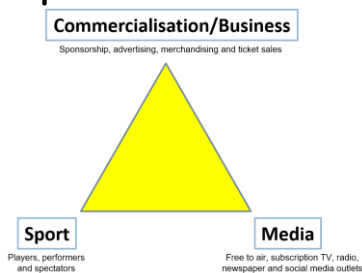


Topic 2: Sport psychology

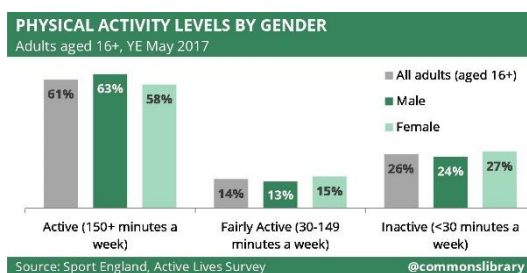


FEEDBACK
SPORTS

Topic 3: Socio-cultural influences



Topic 4: Use of data



Assessment overview - Multiple-choice, short-answer, long-answer and one extended writing questions.

Section A Questions are focused on Topic 1: Health, fitness and well-being.

Section B Questions are focused on Topic 2: Sport psychology and Topic 3: Socio-cultural influences.

Section C One extended-response question related to Topic 2: Sport psychology and Topic 3: Socio-cultural influences.

Topic 4: Use of data is embedded throughout the paper where appropriate.

Students must answer all questions.

Component 3: Practical Performance

Non-examined assessment: internally marked and externally moderated 30% of the qualification 105 marks (35 marks per activity)



Assessment/content overview - Skills during individual and team activities.

General performance skills in individual and team activities

The assessment consists of students completing three physical activities from a set list. One must be a team activity. One must be an individual activity. The final activity can be a free choice. Students must participate in three separate activities. Students will be assessed against set assessment criteria. (found in the Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Physical Education practical performance assessment criteria document on our website.)

Component 4: Personal Exercise Programme (PEP)

Non-examined assessment: internally marked and externally moderated 10% of the qualification 20 marks



Assessment overview

The assessment consists of students producing a Personal Exercise Programme (PEP), and will require students to analyse and evaluate their performance.

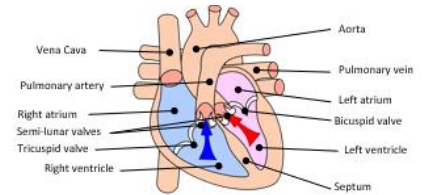
Assessed by the teacher and moderated by Pearson.

In depth detail of qualification

Component 1 – Fitness and Body Systems

Topic 1: Applied anatomy and physiology

- 1.1 The structure and functions of the musculoskeletal system
- 1.2 The structure and functions of the cardiorespiratory system
- 1.3 Anaerobic and aerobic exercise
- 1.4 The short- and long-term effects of exercise



Topic 2: Movement analysis

- 2.1 Lever systems, examples of their use in activity and the mechanical advantage they provide in movement
- 2.2 Planes and axes of movement

Topic 3: Physical training

- 3.1 The relationship between health and fitness and the role that exercise plays in both
- 3.2 The components of fitness, benefits for sport and how fitness is measured and improved
- 3.3 The principles of training and their application to personal exercise/ training programmes
- 3.4 The long-term effects of exercise
- 3.5 How to optimise training and prevent injury
- 3.6 Effective use of warm up and cool down

Component 2: Health and Performance

Topic 1: Health, fitness and wellbeing

- 1.1 Physical, emotional and social health, fitness and wellbeing
- 1.2 The consequences of a sedentary lifestyle
- 1.3 Energy use, diet, nutrition and hydration

Topic 2: Sport psychology

- 2.1 Classification of skills (basic/ complex, open/closed)
- 2.2 The use of goal setting and SMART targets to improve and/or optimise performance
- 2.3 Guidance and feedback on performance
- 2.4 Mental preparation for performance

Topic 3: Socio-cultural influences

- 3.1 Engagement patterns of different social groups in physical activity and sport
- 3.2 Commercialisation of physical activity and sport
- 3.3 Ethical and socio-cultural issues in physical activity and sport

Component 3: Practical Performance

Team Sports	Individual Sports
Acrobatic gymnastics* Association football* Badminton* Basketball Camogie* Dance <i>(Acceptable dances include: ballet, ballroom, contemporary/modern, cultural (includes hip-hop, Irish, Indian, jazz, Latin), folk and street)</i> Field hockey Figure skating* Futsal* Gaelic football Handball Hurling Ice hockey* Inline/Roller hockey* Lacrosse Netball Rowing* Rugby league rugby sevens* Rugby league 13 a side* Rugby union sevens* Rugby union 15 a side* Sailing* Sculling* Squash* Table tennis* Tennis * Volleyball Water polo* Specialist activity** Blind cricket Goalball Powerchair football Table cricket	Amateur boxing Athletics <i>(one discipline)</i> Cross country running <i>(must not exceed 6000 metres).</i> Badminton* BMX cycling* <i>(Racing only, not tricks)</i> Canoeing* Cycling <i>(Track or road cycling)</i> Dance* Diving Platform diving Figure skating* Golf Gymnastics* <i>(Floor routines and apparatus)</i> Equestrian <i>(Can be assessed in either show jumping, cross country or dressage)</i> Kayaking* Rock climbing <i>(Can be indoor or outdoor)</i> Sailing* Sculling* Skiing* <i>(Outdoor/indoor on snow).</i> Snowboarding* <i>(Outdoor/indoor on snow).</i> Squash* Swimming Table tennis* Tennis* Trampolining Windsurfing* Specialist activity** Boccia Polybat All sports with an asterix (*) have certain stipulations (These are mainly to do with forbidden combinations)

Component 4: Personal Exercise Programme (PEP)

1. *The aim of the PEP is for students to develop their ability to analyse and evaluate their personal fitness to improve/optimize performance in physical activity and sport.*
2. *Students must carry out their chosen method(s) of training over 6-8 weeks, using appropriate principles of training to improve/optimize their performance.*
3. *Students will be required to analyse the data from their PEP and evaluate it to show how their performance could improve in their chosen activity. They need to make recommendations for further improvements/optimisation to their performance.*
4. *Students will be assessed on the coherence and conciseness of their evaluation of their PEP, and not exceed the 1500word limit.*

How will the exam board challenge your ability?

Assessment Objective	Description of assessment objective	Total Percentage
AO1	Demonstrate knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.	25%
AO2	Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.	20%
AO3	Analyse and evaluate the factors that underpin performance and involvement in physical activity and sport.	15%
AO4	Demonstrate and apply relevant skills and techniques in physical activity and sport. Analyse and evaluate performance.	40%

Breakdown of Assessment Objectives

	AO1%	AO2%	AO3%	AO4%	Total % of all assessment objectives
Component 1: Fitness and Body Systems	15%	12%	9%	0%	36%
Component 2: Health and Performance	10%	8%	6%	0%	24%
Component 3: Practical Performance	0%	0%	0%	30%	30%
Component 4: Personal Exercise Programme (PEP)	0%	0%	0%	10%	10%
TOTAL FOR GCSE	25%	20%	15%	40%	100%

Grade Boundaries 2023 paper								
9	8	7	6	5	4	3	2	1
82%	78%	73%	66%	60%	53%	40%	27%	14%

Answering Short Answer Questions

These questions will carry 1, 2, 3 or 4 marks.

AO1 questions are based on **knowledge and understanding** of the theory from the specification. 25% of marks making up the entire qualification will be AO1.

AO2 questions are based **on application of knowledge and understanding** in theory based and practical contexts. 20% of marks within the qualification will be AO2. The emphasis here is on your ability to apply your knowledge and understanding to make connections between theory and practice. Use of data will mostly (but not exclusively) be assessed under AO2.

AO3 questions are likely to be (but not exclusively) more challenging questions, but only 15% of marks will be assigned to this category in this qualification. Question will require candidates to **analyse information** and use that **to interpret and evaluate**, or draw conclusions, using their understanding of the theory content.

1-mark questions should take around 1 minute, 2-mark questions should take around 2 minutes. 3 marks questions roughly take 4 minutes and 4-mark questions take 5 minutes.

There is usually a stem (scenario) at the beginning of each question. It is important to read this as it gives you the information you need to answer the question.

AO1 answers require you to recall from the specification without demonstrating understanding (such as the multiple choice questions) or demonstrate the understanding such as the example below.

In this question you are required to demonstrate knowledge and understanding by giving two advantages of circuit training.

16 Miriam wants to increase her fitness for netball. Her teacher suggests circuit training would be an appropriate method to use.

(a) State **two** advantages of using circuit training to increase fitness.

(2)

1

2

You need to list two advantages. The exam will guide you on this by listing the numbers at the side of the question to help you identify how many answers you have to give. The command word used here is **STATE**. When 'state' is used, you need to ensure that you are listing items rather than explaining them.

Question Number	Answer (AO1 – 2 marks)	Mark
16 (a)	One mark each for any two of the following advantages (up to two marks): Any two from: Equipment is not expensive/no specialist equipment required (1) All levels accommodated/can be tailored to individual needs (1) Can be used with large groups (1) Can focus on any component of fitness (1) Can include both aerobic and anaerobic activities (1) Can include a wide variety of exercises to prevent boredom/maintain interest (1) Accept other appropriate advantages.	(2)

In this question, you have to put the answer in the appropriate box. The AO1 knowledge and understanding is part a) Function

- 5 Muscles work with the skeleton to bring about specific sporting movements.

Complete **Table 1** by:

- (a) stating the function of each muscle
- (b) giving an example of a specific sporting movement that uses each muscle.

Muscle	(a) Function	(b) Specific sporting movement
Triceps	(1)	(1)
Quadriceps	(1)	(1)

Table 1

(Total for Question 5 = 4 marks)

Again the word is 'state'. Simply write down what it does (in this example, what does the triceps do and what does the quadriceps do? The exam board directs you to the correct table by using **bold** lettering and numbers.

Question Number	Answer (5 (a) AO1 – 2 marks; 5 (b) AO2 – 2 marks)		
5 (a) and 5 (b)	One mark for each correct response.		
	Muscle	Function	Specific sporting movement
	Triceps	Extend the arm at the elbow (1)	Arm action in follow through of a set/jump shot in basketball or netball (1)
	Quadriceps	Extend the leg at the knee (1)	Follow through after kicking the ball with power (1)
	Accept any other appropriate examples of specific sporting movements for the stated muscles.		

The final style of AO1 question is where you have to a one-line answer. This is usually giving the definition of a key term and will ask you to **DEFINE** (in other words tell me what it means)

15 (a) Define the term **agility**.

(1)

Question Number	Answer (AO1 – 1 mark)	Mark
15 (a)	Credit a definition that includes all the following points. Any one from: Changing direction Quickly In/with control For example: Agility is the ability to change the direction of the whole body quickly and with control.	(1)

As in the answer above, there are often key words that you have to write down in order to be able to gain the mark. In the example above the key things to include are changing direction, some reference to this being done quickly and that there is an element of control.

TOP TIP - Learn all of your key terms. These are often the answers to most AO1 questions.

AO2 questions are based on **application** of knowledge and understanding in theoretical and practical contexts. The emphasis here is on your ability to **apply** your knowledge and understanding in order to make connections between theory and practice. Any questions that require interpretation of data will come under AO2. For example

Table 3 shows ratings for the Cooper 12-minute run test.

Age	Excellent	Above Average	Average	Below Average
15–16	>2100m	2000–2100m	1700–1999m	1600–1699m

Table 3

(d) Which **one** of the following is the correct rating for Jenny, given her score of 2050m in the Cooper 12-minute run test?

(1)

- ☐ **A** Excellent
- ☐ **B** Above average
- ☐ **C** Average
- ☐ **D** Below average

Miriam adds a tricep dip station to her circuit.

- (c) Miriam applies the principle of progressive overload to her tricep dip station. She thinks this could increase the muscular endurance and strength in her arms.

Explain how Miriam could do this. You should use an example in each of your answers.

- (i) the muscular endurance in her arms

(3)

In this example, you have already been shown a copy of the circuit that Miriam is completing. The question has asked about 'progressive overload'. The first part of the answer would be to **explain** what progressive overload is. This will demonstrate your knowledge and understating (AO1). The AO2 marks (of which there are two) would be to **apply** your knowledge; in other words, give specific examples of how Miriam would do it.

Question Number	Answer (AO1 – 1 mark; AO2 – 2 marks)	Mark
16 (c) (i)	One mark for appropriate example of how to create progressive overload to increase muscular endurance and a maximum of two more marks for appropriate expansion (up to three marks). Any one from: Increase reps (1) from 12 to 15 (1) to gradually increase overload (1) Increase the length of time at the station (1) from 20 seconds to 25 seconds (1) so that the muscles are gradually being made to work for longer (1) Accept any other appropriate responses showing: An example of progressive overload (AO1) Reference to need to increase reps/time spent (AO2) Reference to need for increase to be gradual (AO2)	(3)

AO3 questions are likely to be (but not exclusively) more challenging questions, but only 15% of marks will be assigned to this category in this qualification. Questions will require you to **analyse** information and use that to **interpret** and **evaluate**, or **draw conclusions**, using your understanding of the theoretical content.

In this question you are being asked to analyse test results. There are three marks available so it wants you to **analyse** each test result. This means you needs to tell the examiner what is happening in each test (i.e. in the Cooper Run, the distance has increased) and what this means (that the performer can run further in the same time)

- (b) Miriam is following a six week circuit training programme to improve her fitness for netball. **Table 4** shows her fitness test results collected during her six week training programme.

Fitness test	Weeks					
	1	2	3	4	5	6
Cooper's run	1700m	1750m	1800m	1850m	1900m	1950m
Vertical jump test	41.0cm	41.5cm	42.0cm	42.5cm	43.0cm	43.5cm
35m sprint	5.50s	5.55s	5.55s	5.57s	5.57s	5.59s

Table 4

- (i) Analyse the data in **Table 4** to determine the trends for each fitness test

(3)

Question Number	Answer (AO3 analysis – 3 marks)	Mark
15 (b) (i)	One mark for each analysis of set of fitness test data (up to three marks) - The cooper's run test is increasing in distance which means she can run a greater distance in the same time (1) - The vertical jump test is increasing height jumped which means she is able to jump slightly higher (1) - The 35m sprint is taking longer to complete which means she is taking longer to run the same distance/slowing down (1) Accept other appropriate responses.	(3)

Another example is to **justify** – in other words, show pr prove that you are correct. In this question, you are asked to justify another station that Miriam could add to her circuit to optimise her performance in netball (make her performance the best it can be). As they have given you a specific sport, you will need to link your station, and the area of fitness it improves, to the game of netball.

Question Number	Answer (AO3 evaluation – 2 marks)	Mark
15 (b) (ii)	One mark for justification of activity and one mark expansion on that justification in relation to netball (up to two marks) Accept any one from: - She should use an active rest period between exercise stations/increase the length of shuttle runs in order to improve her aerobic fitness even though it is improving (1) so that she can maintain the quality/intensity of her play during the match (1) - She should include a shuttle run to improve her 35m sprint time/increase her speed (1) which she will need to keep up with her opponent/run quickly into a space to receive a pass on the netball court (1). - She should include some box jumping/plyometrics in her circuit in order to improve her power (1) so that she can intercept a high pass (1). Accept other appropriate responses.	(2)

1. Explain using an example.....

For example - Explain, using an example, why involuntary muscles are important during sport and physical activity. (3marks) (Point, Example, Explain PEE)

To gain all three marks, candidates needed to: state that involuntary muscles were not consciously controlled give an example then give an advantage of this not being consciously controlled

Involuntary muscles are not controlled consciously, they are out of a person's conscious control (1 mark). For example, the walls of arteries (2 marks) will contract and relax during vascular shunting to allow blood to move to active parts of the body and supply the muscles with oxygen to create aerobic energy without any thought process (3 marks)

2. Analyse

For example - Analyse the actions of the antagonistic muscle pairs at the circled joints of the right knee that causes the movement from position A to position B. (3 Marks)

5 Figure 6 shows a footballer kicking a football. His right knee and right ankle are circled.



(Source: © OSTILL is Franck Camhi/Shutterstock)

Figure 6

To gain all available marks for this type of question candidates need to: identify the joint action state the antagonistic muscle pair state the action of each that results in the stated joint action. Appropriate technical terminology should be used throughout.

From position A to position B the knee joint is moving from flexed position to an extended position (1 mark). To achieve this the quadricep will contract as the agonist (2 marks) and the hamstring will relax as the antagonist (3 marks)

Answering 9 Mark Questions

Edexcel GCSE Physical Education Section C - Extended writing question Paper 1

This question is worth **9** marks (roughly **12-15 minutes** time to be spent on this question).

For Paper 1, this question is focussed on the topic **Physical Training**. This can include **methods of training, components of training, fitness tests, injuries**

The purpose of a nine-mark question is for the candidate to demonstrate, through their response, the skills of:

- Recall of knowledge (AO1)
- Application of knowledge (AO2)
- Analysis/evaluation (based on relevant AO1/AO2 content) (AO3)

Each skill (bullet point) is worth three marks each, so if your answer only demonstrates recall of knowledge, no matter how much knowledge you show, then you cannot score more than 3 marks.

Level	Mark	Descriptor
	0	No rewardable material
1	1-3	• Demonstrates isolated elements of knowledge and understanding, with limited technical language used (AO1). • Limited attempt to apply knowledge to question context (AO2). • Generic assertions may be presented (AO3 - evaluation).
2	4-6	• Demonstrates mostly accurate knowledge and understanding, including appropriate use of technical language in places (AO1). • Applied knowledge to question context (AO2). • Attempts at drawing conclusion, with some support from relevant evidence (AO3 - evaluation).
3	7-9	• Demonstrates accurate knowledge and understanding throughout, including appropriate use of technical language (AO1). • Applied detailed knowledge to question context throughout (AO2). • Reaches a valid and well-reasoned conclusion supported by relevant evidence (AO3 - evaluation).

Edexcel GCSE Physical Education

Section C - Extended writing question Paper 1

This is an example of a question that could be given in your exam.

The question is, **"Evaluate the training methods causing these long-term effects and their impact on Dan's shot-put performance"**.

In your answer, you need to;

- Show knowledge of the training methods that could cause the long-term training effects (AO1)
- Consider the effect of these training methods on shot put performance (AO2)
- Evaluate the training methods given the question context, i.e. provide a reasoned judgment about the value of each method (AO3)

Dan trains regularly to improve his shot put performance and his general fitness. Figure 8 shows Dan during a shot put competition. Table 7 shows some of the long-term training effects on his body systems.



Figure 8

Long-term training effects
Increased bone density
Decreased resting heart rate
Muscle hypertrophy

Table 7

Evaluate the training methods causing these long-term effects and their impact on Dan's shot put performance.

To structure your response, there is no right or wrong answer. However, it is suggested that a good way to write your answer would be to use 'developed paragraphs'.

So that, each paragraph recalls information, applies this knowledge to the question context, and then, depending on the command word, analyses or evaluates the information presented in terms of the question context.

Decreasing resting heart rate is a long-term effect on the cardiovascular system, from aerobic exercise, therefore Dan may have been using continuous training, fartlek training or aerobic circuit training, all of which can increase cardiovascular fitness. Neither fartlek nor continuous training are specific to his sport, as they involve working at a moderate intensity for long periods of time whereas shot put involves high intensity work for very short periods. This also means Dan works anaerobically in his sport, therefore training aerobically and having adaptations to his cardiovascular system will not improve his performance.*

*as he does not require increased oxygen delivery to his muscles.

**Where are the statements for
AO1, AO2 and AO3?**

**This is a 3/3 paragraph
(perfect answer).**

Edexcel GCSE Physical Education Section C - Extended writing question Paper 2

This question is worth 9 marks (roughly 12-15 minutes time to be spent on this question). For Paper 2, this question is focussed on either Sport Psychology or Socio-Cultural influences.

Therefore it could focus on; Sport Psychology: types of feedback, types of guidance, classification of skill, types of practice or mental rehearsal.

Socio-Cultural influences: Engagement factors, commercialisation, sportsmanship/gamesmanship/deviance.

The purpose of a nine mark question is for the candidate to demonstrate, through their response, the skills of:

- Recall of knowledge (AO1)
- Application of knowledge (AO2)
- Analysis/evaluation (based on relevant AO1/AO2 content) (AO3)

Each skill (bullet point) is worth three marks each, so if your answer only demonstrates recall of knowledge, no matter how much knowledge you show, then you cannot score more than 3 marks.

Evaluate the importance of intrinsic and extrinsic feedback for a player in an under 12 hockey team. (9)

Extrinsic feedback for a player in an under 12 hockey team would be important as the team is young so they do not have much experience in the game, so receiving feedback from their coach would be most beneficial. This is because the coach is able to guide the player from an experienced point of view which would help them develop and improve their game.

Also, the use of extrinsic feedback would help motivate and improve the performers confidence as they are still new to the game and may not be sure what they are doing. Extrinsic feedback would reassure the hockey team and help them improve their game.

Extrinsic feedback for a player in an under 12 hockey team would be important as the team is young so they do not have much experience in the game, so receiving feedback from their coach would be most beneficial. This is because the coach is able to guide the player from an experienced point of view which would help them develop and improve their game.

Also, the use of extrinsic feedback would help motivate and improve the performers confidence as they are still new to the game and may not be sure what they are doing. Extrinsic feedback would reassure the hockey team and help them improve their game.

AO1- Highlighted in yellow.

AO2- not highlighted as there is no evidence of any AO2 comments.

AO3 - highlighted in pink

Extrinsic feedback is feedback that is given from an external source such as by a coach. An example of extrinsic feedback is that the coach could say to hit the hockey ball with more power for longer passes along the floor. This sort of feedback would be really important for an under 12 hockey player as they are inexperienced and do not have the knowledge to correct their own technique for the skill.

Extrinsic feedback is feedback that is given from an external source such as by a coach.

(AO1)

An example of extrinsic feedback is that the coach could say to hit the hockey ball with more power for longer passes along the floor. (AO2)

This sort of feedback would be really important for an under 12 hockey player as they are inexperienced and do not have the knowledge to correct their own technique for the skill.

(AO3)

Where are the statements for AO1, AO2 and AO3?

This is a 3/3 paragraph (perfect answer).

Glossary of Key Words - Alphabetical.

Aerobic work	Working at a moderate intensity so that the body has time to utilise oxygen for energy production, allowing the body to work for a continuous period, e.g. long-distance events, for the duration of a match
Anaerobic work	Working at a high intensity without oxygen for energy production, therefore, limited energy so work period will be short, e.g., sprinting up the wing in a football match
Antagonistic muscle pairs	Pairs of muscles that work together to bring about movement. As one muscle contracts (agonist) the other relaxes (antagonist). For example, the biceps and triceps. The triceps relax to allow the biceps to contract to flex the arm at the elbow. Roles are reversed to extend the arm at the elbow.
Axis	A line around which the body/a body part can turn
Basic skill	A simple skill requiring little concentration to execute
Complex skill	A skill requiring a lot of attention/concentration
Closed skill	A skill performed in a predictable environment, e.g. a player taking a penalty.
Deviance	Behaviour that goes against the moral values or laws of the sport.
Distributed practice	Intervals between skill practice in a training session for rest or mental rehearsal.
Exercise	A form of physical activity done to maintain or improve health and/or fitness; it is not competitive sport.
Energy balance	This is the basis of weight control. For body weight to remain constant energy input (via food) must equal energy expenditure.
Feedback	Information received during or after a performance about the performance
Fitness	The ability to meet the demands of the environment
Fixed practice	Repeatedly practising a whole skill within a training session
Frontal axis	Imaginary line passing horizontally through the body from left to right, allows flexion and extension
Frontal plane	Imaginary line dividing the body vertically from front to back. Movement occurs in the frontal plane about the sagittal axis, e.g. when performing a star jump.
Gamesmanship	Bending the rules/laws of a sport without actually breaking them
Guidance	Information to aid the learning of a skill. This information can be given visually, e.g. through demonstrations; verbally, e.g. by the coach explaining how to perform the technique; manually, e.g. by physically moving a performer into the correct position; and mechanically, e.g. by using a harness in trampolining
Health	A state of complete emotional, physical and social wellbeing, and not merely the absence of disease and infirmity
High organisation skill	A skill that cannot be broken down easily and practised separately because the phases of the skill are closely linked, e.g. cartwheel, golf swing
Hydration	Being hydrated means the body has the correct amount of water in cells, tissues and organs to function correctly. The average recommended daily intake is 2.5 litres of water for men and 2 litres for women
Lactic acid	A by-product of energy production. Formed when the body is exercising anaerobically at high intensity
Lactate accumulation	When lactate levels in the blood/muscle rise due to increased work intensity, e.g. moving from aerobic to anaerobic exercise
Lifestyle choice	The choices we make about how we live and behave that impact on our Health.

Low organisation skill	A basic skill that can be broken down easily into different phases so each part can be practised separately, e.g. tennis serve, front crawl swimming stroke.
Macronutrient	A type of food required in relatively large amounts in the diet, e.g. carbohydrates and fats
Massed practice	Practice that occurs without rest between trials
Micronutrient	A type of food required in relatively small quantities in the diet, e.g. vitamins and minerals
Mechanical advantage	2nd class levers allow a large load to be moved with a relatively small amount of muscular effort
Mechanical disadvantage	3rd class levers cannot lift as heavy loads, with the same amount of effort, as 2nd class levers due to the position of the effort and load from the fulcrum
Muscle fibre types	Muscle fibres make up the skeletal muscle. The different fibre types are type I, type IIa and type IIx
Open skill	Skills performed in an unpredictable environment, where the performer has to react and adjust due to the changing nature of the situation, for example a player trying to pass the ball to a team mate who is trying to get free from the opposition
Optimum weight	Refers to the weight someone should be, on average, based on their sex, height, bone structure and muscle girth
Sagittal axis	Imaginary line passing horizontally through the body from front to back, allows abduction and adduction
Sagittal plane	Imaginary line dividing the body vertically into left and right sides
Sedentary lifestyle	Where there is little, irregular or no physical activity.
Sportsmanship	Qualities of fairness, following the rules, being gracious in defeat or victory
Transverse plane	Imaginary line dividing the body horizontally from front to back
Type I	Also known as slow-twitch muscle fibres, they are suited to low intensity aerobic work, for example marathon running, as they can be used for a long period of time without fatiguing
Type IIa	These are fast-twitch muscle fibres, they are used in anaerobic work, but can be improved through endurance training to increase their resistance to fatigue
Type IIx (previously type IIb)	These are fast-twitch muscle fibres that are used in anaerobic work and can generate much greater force than the other fibre types, but fatigue quickly. They are beneficial to 100 m sprinters
Variable practice	A training session that includes frequent changes of task so that the skill can be repeated in different situations
Vascular shunting	Process that increases blood flow to active areas during exercise by diverting blood away from inactive areas. This is achieved by vasoconstriction and vasodilation
Vasoconstriction	Narrowing of the internal diameter (lumen) of the blood vessel to decrease blood flow
Vasodilation	Widening of the internal diameter (lumen) of the blood vessel to increase blood flow
Vertical axis	Imaginary line passing vertically through the body, allows rotation of the body in an upright position

Glossary of Command Words - Alphabetical.

Assess	Requires reasoned argument of factors to reach a judgement regarding their importance/relevance to the question context. For example 'Assess the relative importance of....'
Analyse	Break something down into its component parts
Calculate	Requires computation in relation to fitness data
Classify	Required to group or place on a scale based on characteristics/analysis of characteristics
Complete	Required to add information based on a stimulus/resource. This could be to complete a table, graph, chart or missing word/phrase from a sentence/statement.
Define	Required to give the meaning or definition of a word/term
Describe	Account of something without reasons. Statements in the response need to be linked, for example 'Describe the lever system operating at the elbow....'
Discuss	Required to explore the issue/situation/problem that is being assessed in the question context, articulating different or contrasting viewpoints, for example advantages, disadvantages.
Examine	Requires a justification/exemplification of a point based on some analysis or evaluation within the response. For example, 'Examine the role of the first-class lever system....'
Explain	Requires a justification/exemplification of a point. The answer must contain some linked reasoning. For example, the format of the response may be 'fact... because... therefore....'
Evaluate	Review/analyse information, bringing it together to form a conclusion/judgement based on strengths/weaknesses, alternatives, relevant data or information. Come to a supported judgement of a subject's qualities and relation to its context
Give	Generally, involves the recall of a fact, or an example based on the given stimulus. For example, 'Give an example of a specific sporting movement....' Can be synonymous with identify/state.
Identify	Can require a selection from a given stimulus or resource, for example an option from a multiple-choice question or analysis of data from source material such as a graph, or can be synonymous with give/state
Justify	Give reasons for answers. This could range from a single response to extended writing answers, depending on question context. For example, 'Justify the use of interval training to improve....'
Label	Requires addition of named structures or features to a diagram
Predict	Often used in data related questions, for example where it requires a prediction of what is likely to happen in future, based on given data
Select	Requires a choice based on an evaluation of information from a given stimulus/resource
State	Generally, involves the recall of a fact, for example 'State one benefit of exercise....' but can, when used in relation to a context, be used to determine a student's grasp of information presented, for example a data analysis question. Can be synonymous with give/identify
Using an example	Often used with explain or describe, where an example is required to exemplify the point(s) being made
Which	Mainly used in multiple-choice questions where a selection from a set of options is required, for example 'Which one of the following....'

Section C - Extended Answer Past Questions

Paper 1 (9 Marks)

Year	Question				
2018	Eric is a 100m sprinter. He trains regularly using Fartlek training, plyometrics and sprint interval training. Evaluate the likely effects of these training methods on Eric's fitness for sprinting and his sprinting performance.				
2018	Figure 9 shows two canoeists during a competition. To do well in competition, canoeists need good strength, flexibility and speed. Discuss the suitability of using the fitness tests shown in Table 6 to assess the fitness of the canoeists for their sport.  (Source: Photo by technotr/Getty Images) Figure 9 Table 6 shows the fitness tests these canoeists used to assess their fitness. <table><tr><td>sit and reach test</td><td>30m sprint</td><td>one-minute press-up test</td></tr></table> Table 6	sit and reach test	30m sprint	one-minute press-up test	
sit and reach test	30m sprint	one-minute press-up test			
2019	Tennis players will work at different intensities during a match. Figure 7 shows three different phases of a tennis match. Examine the importance of the respiratory system during the different phases shown in Figure 7.  During a serve During a long intense rally Resting between games (Source: © Clive Brunskill/Getty Images) (Source: © Julian Finney/Getty Images) (Source: © Andrew Yates/Getty Images) Figure 7				
2019	Dan trains regularly to improve his shot put performance and his general fitness. Figure 8 shows Dan during a shot put competition. Table 7 shows some of the long-term training effects on his body systems. Evaluate the training methods causing these long-term effects and their impact on Dan's shot put performance.  Figure 8 <table><tr><td>Long-term training effects</td></tr><tr><td>Increased bone density</td></tr><tr><td>Decreased resting heart rate</td></tr><tr><td>Muscle hypertrophy</td></tr></table> Table 7 (Source: © Jim Parkin/Shutterstock)	Long-term training effects	Increased bone density	Decreased resting heart rate	Muscle hypertrophy
Long-term training effects					
Increased bone density					
Decreased resting heart rate					
Muscle hypertrophy					

2020	Dexter plays basketball. A basketball game is played at different intensities. Dexter's body uses different muscle fibre types as the intensity of the play increases and decreases. Figure 6 shows three different intensities of play in basketball. Evaluate the importance of three different muscle fibre types during the different intensities of play in Figure 6.	 Jumping to reach the ball at the start of the game (Source: © Fabrizio Andrea Bertani /Shutterstock)  Jogging back to position (Source: © Icon Sportswire/Contributor/Getty Images)  Sprinting to the basket (Source: © A_Lesik/Getty Images) Figure 6				
2020	Jack competes in the 110 m sprint hurdles. He has to run as fast as possible, jumping hurdles as he runs. Figure 7 shows a 110 m sprint hurdles race. Jack has high levels of power, strength and flexibility. Evaluate three other components of fitness that will help Jack's sprint hurdling performance.	 (Source: © Steve Feeney/Contributor) Figure 7				
2021	The functions of the skeleton make it possible to play sports such as rugby. Figure 8 shows Pete playing rugby. The functions of the skeleton include red and white blood cell production and providing joints for movement. Evaluate the importance of three other functions of the skeleton in allowing Pete to participate in rugby.	 (Source: © PhotoStock10/Shutterstock)				
2021	Lola is a triathlete. To complete a triathlon Lola needs to swim 1.5 km, cycle 40 km and run 10 km. Lola completes the fitness tests shown in Table 7. Evaluate the suitability of the fitness tests in Table 7 to assess Lola's fitness for the triathlon.	<table><tr><th>Lola's fitness tests</th></tr><tr><td>One-minute press-up test</td></tr><tr><td>Cooper 12 minute swim test</td></tr><tr><td>Grip dynamometer test</td></tr></table> Table 7	Lola's fitness tests	One-minute press-up test	Cooper 12 minute swim test	Grip dynamometer test
Lola's fitness tests						
One-minute press-up test						
Cooper 12 minute swim test						
Grip dynamometer test						

2022	Mason is a sprinter. Figure 11 shows a sprinter waiting to start a race. Sprinters require high levels of power, speed and reaction time to perform well in their event. Mason trains regularly, using interval training, plyometric training and continuous training. Evaluate the importance of these three training methods in improving Mason's fitness to make him a better sprinter.	 (Source: © sirtra) Figure 11
2022	Christina plays handball. Each match lasts 60 minutes. Figure 10 shows a handball match. Table 7 shows three short-term effects of playing handball on Christina's body systems. Evaluate the importance of the three short-term effects listed in Table 7 on Christina's handball performance.	 (Source: © Dan POTOR/Shutterstock) Figure 10 Short-term effects Lactate accumulation Increased depth of breathing Increased heart rate Table 7
2023	Tom's football team is playing in the regional finals in three weeks. It is important that the team continues to play and train but remains injury free. Evaluate three different ways, apart from warming up, the team can reduce the risk of injury so the team can play in the final.	

Section C - Extended Answer Past Questions

Paper 2 (9 Marks)

Year	Question	
2018	Discuss the view that sportsmanship is being replaced by gamesmanship in professional sport.	
2018	Mechanical and manual guidance can be used when practising techniques in sport. Assess the advantages and disadvantages of using mechanical and manual guidance when teaching a beginner to swim.	
2019	Evaluate the importance of intrinsic and extrinsic feedback for a player in an under 12 hockey team.	
2019	Discuss the impact a sedentary lifestyle can have on physical health.	
2020	Evaluate whether an Under 15s football team should accept sponsorship from a betting company.	
2020	Evaluate the reasons for, and consequences of, deviance in sport at the elite level.	
2021	The rugby player in Figure 6 is using mental rehearsal in preparation to score from a penalty kick. Explain one advantage of using mental rehearsal for the kicker.	 (Source: © Marco Jacobucci/Epix/Shutterstock) Figure 6
2021	Regular training to increase fitness can affect our physical health positively and negatively. Evaluate the positive and negative effects of fitness training on physical health.	
2022	Ethnicity and gender are two of the personal factors that can have a negative impact on adults' participation in sport. Evaluate three other personal factors which can negatively impact on an adult's participation in sport.	
2022	Figure 6 shows Demitri, who is an elite power athlete, throwing the hammer. Evaluate the importance of protein, carbohydrates and vitamins for elite power athletes such as Demitri.	 (Source: © Wagner Cam) Figure 6
2023	Figure 8 shows Petra, who is a beginner at tennis, being taught forehand volley by her coach. Evaluate the appropriateness of both massed and distributed practice for a beginner such as Petra.	 (Source: © Pearson Asset Library A) Figure 8

Perfect Answer 2023 Paper 1

9 mark question

Tom's football team is playing in the regional finals in three weeks. It is important that the team continues to play and train but remains injury free.
Evaluate three different ways, apart from warming up, the team can reduce the risk of injury so the team can play in the final.

This response would get 100% of the marks available.

There are many ways that Tom's football team could reduce the chance of injury (*Introduction is short and addresses the demands of the question*)

One way would be to ensure that they are wearing the appropriate safety equipment linked to football such as shin pads and boots (*AO1 Knowledge*). The protective clothing will ensure that any miss-timed tackles in training do not result in shin injuries such as abrasions, sprains and fractures to the leg (*AO2 - Application of knowledge*). The players are more likely to remain injury free thus allowing them to play in the regional finals. Without the use of shin pads they could end up getting injured which could result in them being side-lined. (*AO3 - Evaluation/Justification*).

Another way to help reduce injury for Tom and his team would be to ensure that their playing areas are checked for hazards such as holes in the ground and dis-guarded rubbish (*AO1 Knowledge*). An uneven surface could result in a sprained ankle, fracture or dislocation (*AO2 - Application of knowledge*). By checking the playing areas, Tom and his team are ensuring that they are safe to play, reducing the risk of injury so that they are able to play in the regional finals. Without the checks they could place a foot in a hole, cause the injury and miss playing for their team. (*AO3 - Evaluation/Justification*).

A third way in which they could prevent injury could be to ensure that they play their training matches by adhering to the rules of the game (*AO1 Knowledge*). Rules help to ensure that the game is played fairly but some rules are linked to safety such as the rules about tackling. If Tom and his team mates were to start jumping in the air with their studs showing, which is against the laws of football the players could sustain injuries to the legs and ankles such as sprains, abrasions, fractures or dislocations (*AO2 - Application of knowledge*). By ensuring they adhere to the rules they can be on the pitch training and playing competitively against each other and other teams but reducing their chances of sustaining an injury which may result in missing the finals (*AO3 - Evaluation/Justification*).

To summarise, there are many ways that Tom and his team can reduce their chances of sustaining an injury so that they are fit and injury free for the finals.

Perfect Answer 2023 Paper 2

9 mark question

Figure 8 shows Petra, who is a beginner at tennis, being taught the forehand volley by her coach. Evaluate the appropriateness of both massed and distributed practice for a beginner such as Petra.



(Source: © Pearson Asset Library A)

Figure 8

Petra will improve her tennis skills and ability with the correct types of practice structures. They should consider her motivation, her ability, the actual skill and not be ridged. *(Introduction is short and addresses the demands of the question)*

Massed practice is when a coach will focus on a single skill for the duration of the training session without a break. *(AO1 - Knowledge)*. The advantages to this type of practice are that a skill, such as the forehand volley, can be 'grooved' with Petra only focusing on this particular shot which means that she can focus on the technique. It will call upon her ability to complete the skill without a break which will challenge her fitness. *(AO2 - Application of knowledge)* Despite these positives to this type of practice, as a beginner she may become bored during the session and switch off as she wants to work on her all-round game meaning that her skills for this particular shot may not progress at the rate her coach would like them to. *(AO3 - Evaluation and Justification)*.

Massed practice is great for a performer that has already mastered the skill and is linked to closed skills where the environment and the situation is the same such as the forehand volley. *(AO1 Knowledge)*. This is a good way to practice if she wants to replicate the skill whilst suffering from fatigue *(AO2 - Application of knowledge)*. As she is a beginner the fatigue can have a detrimental affect on her ability to improve and she may develop some bad habits. *(AO3 - Evaluation and Justification)*.

Distributed practice is when a player and coach plan a session that is broken up with periods of rest and or breaks between play. *(AO1 - Knowledge)*. This type of practice is suited to beginners such as Petra as it gives her time to recover physically between drills so she is fresh. *(AO2 - Application of knowledge)*. It also gives her time to reflect on her skill development. This would be a good way to develop her forehand volley. *(AO2 - Application of knowledge)*. This method does not allow Petra to feel the skill when she is fatigued which is one negative part of this type of practice method. *(AO3 - Evaluation and Justification)*. As she is a beginner she should be focused on the skill itself and rest periods will allow her to be fresh when she then starts to practice, giving her every opportunity to be successful with developing her forehand volley. *(AO3 - Evaluation and Justification)*.

Petra's coach and Petra would value a range of different practice structures depending on the skill, her fitness level and her motivation to improve.

Edexcel GCSE Physical Education Knowledge Organisers