

Explaining our exams: GCSE (9-1) Physical Education

Supporting success in PE

This guide aims to shed light on how we build our exams, and help give you a better understanding of our papers.

Introduction to our exams

Our assessment model was designed in collaboration with teachers to ensure it was the best possible set-up for candidates. We looked closely at the design and structure of the papers; this included the paper length, question types and demand of the paper. We also looked closely at the overall assessment model; with 3 hours' assessment for GCSE PE full course, this involved the careful balance of number of papers versus length of papers.

Design and structure of our papers

We have built certain design features into the structure of our papers to ensure that, as far as possible, they remain comparable year on year. For those teachers that have delivered Edexcel for the 2009 PE qualification, these new papers should feel similar.

One such design feature is common question types in each paper. Each paper will consist of multiple choice questions, short answer questions and extended answer questions. Questions may be split into a number of items, e.g. 1a, 1bi, 1bii, 1c, 1d, and the number of these will vary to allow questions to be tailored to the content.

For the full course:

- The fitness and body systems paper has 8 multiple choice questions and the health and performance paper has 6 multiple choice questions
- In each paper you will find 2 x 9-mark extended answer questions
- The remainder will be short answer questions

For the short course:

- There is one paper which comprises of:
 - 7 multiple choice questions
 - 1 x 9-mark extended answer question
 - The remainder will be short answer questions

Question types

The different question types in the paper include:

1. Multiple choice questions (MCQs)

- MCQs help to assess the breadth of the content and will appear in the first section of each paper.
- MCQs will have four options to select from.
- MCQs will be written in positive terms and will not rely on a candidate's ability to pick out negative terms (e.g. which of these is NOT...).
- We will aim to phrase them as a question; the question stem will be a complete sentence, rather than the option of completing the sentences.

Figure 1 shows one plane and one axis of the human body.
The plane is represented by the square.
The axis is represented by the dotted line.




Figure 1

(d) Identify the plane and axis shown in **Figure 1**. (1)

- A Sagittal plane and frontal axis
- B Frontal plane and vertical axis
- C Transverse plane and frontal axis
- D Transverse plane and vertical axis

This question requires candidates to identify the planes and axis shown in the image above. As standard, there are four options, and the three incorrect options are words candidates will recognise from their course of study.

Question Number	Answer	Mark
1 (d)	D	(1)

2. Structured/short answer questions

- These questions will carry 2, 3 or 4 marks.
- There is usually a stem (scenario) at the beginning of each question.

5 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)

.....

.....

.....

(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)

.....

This question requires candidates to identify **two** advantages of using circuit training. For such questions we arrange the answer lines with a 1 and 2 to ensure candidates don't lose marks just by forgetting they need to mention two advantages.

When there is a reference to a table/graph/image, this will be put in bold.

Question Number	Answer (AO1 – 2 marks)	Mark
15 (a)	<p>One mark each for any two of the following advantages (up to two marks):</p> <p>Any two from:</p> <ul style="list-style-type: none"> • 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) <p>Accept other appropriate advantages.</p>	(2)

Question Number	Answer (AO3 analysis – 3 marks)	Mark
15 (b) (i)	<p>One mark for each analysis of set of fitness test data (up to three marks)</p> <ul style="list-style-type: none"> • 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) <p>Accept other appropriate responses.</p>	(3)

Extended answer questions

These questions will carry 9 marks.

There is no longer a requirement to test quality of written communication (as there was in the 2009 qualifications). This means that a candidate will be assessed solely on the quality of their answers about the factors that underpin performance and involvement in physical activity and sport. Poor spelling and grammar (that doesn't impede comprehension) will not prevent a candidate gaining maximum marks.

As these items are more open-ended, they are marked using levels-based mark schemes. This is because there are a variety of different approaches that a candidate can take to answer the question or there isn't a single 'correct' answer.

► Evaluate whether a 50 m front crawl competitive swimmer should use a combination of interval training and weight training to improve their performance.

Question Number	Indicative content (AO1 – 3 marks; AO2 – 3 marks; AO3 – 3 marks for evaluation)	Mark
19	<p>Reward acceptable answers. Responses may include, but are not limited to, the following:</p> <p>Knowledge and understanding of interval and weight training (AO1)</p> <ul style="list-style-type: none"> • Interval training is a series of periods of work alternated with periods of rest. • Interval training performed in the pool uses the principle of specificity. • Weight training can be used to increase muscular endurance and muscular strength. <p>Application of knowledge to swimming (AO2)</p> <p>Specific examples where each method of training can be used in to develop swimming fitness.</p> <ul style="list-style-type: none"> • Interval training is a form of intermittent training that allows the performer to recover so they can work at high levels of intensity during training to match event requirements. • Weight training can work on muscular endurance and muscular strength. Swimmer would be more likely to work on muscular strength as they compete in a sprint distance and will want the power to increase speed through the water. • Weight training can be varied to allow targeted training on the muscles required for swimming. <p>Making connections between the combined use of these methods of training and impact on swimming performance (AO3 – evaluation)</p> <ul style="list-style-type: none"> • Two types of training helps to avoid tedium and therefore increase chances of maintaining training and interval training can be made specific to swimming by working in the pool. • Requires correct balance, too much emphasis on weight training could have negative impact on body weight and swimming efficiency, although support of the water may negate this. • Conclusion making a judgement that both types are necessary for improvement in competition: interval training will increase sprint speed from the start and allow for a sprint finish; weight training will result in increased strength/power allowing for a stronger start from the blocks and a greater arm pull and leg kick in the water. Conclusion may also make reference to another training method that would also improve performance. <p>Students who only show achievement against AO1 will not be able to gain marks beyond level 1.</p>	(9)

The mark schemes now show the breakdown of marks by assessment objective. All extended answer questions have an equal distribution of assessment objectives (AO1-3 marks, AO2-3 marks and AO3-3 marks).

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • 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).
Level 2	4-6	<ul style="list-style-type: none"> • 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).
Level 3	7-9	<ul style="list-style-type: none"> • 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).

The level descriptors are always the same for each extended answer question throughout the life of the qualification, this is because the skills being assessed are the same – knowledge and understanding, application and analysis and evaluation.

By having 3 marks within the levels, there is flexibility between what marks are awarded to the candidate to allow for differentiation.

Each band assesses the quality of the response against each of the three assessment objectives. So by having an even distribution of marks between the assessment objectives means that we are not placing an undue emphasis on the highest order skills of analysis and evaluation.

We have designed extended answer questions to allow students the opportunity to demonstrate their understanding and reward them appropriately. These questions are perceived to be more demanding than other question types but this is not necessarily the case. As Ofqual states in its blog "research shows that teachers tend to underestimate the difficulty of multiple choice questions, and overestimate the difficulty of more open-ended questions."

The extended answer questions target the full ability range and are used to differentiate between all students. The mark schemes for these questions consist of three bands, each of 3 marks, which target the three AOs (AO1, AO2 and AO3) in each band. The indicative content has also been written to show distinctly how each bullet point meets one of the three assessment objectives, and is proportionally weighted.

Ramping within questions

Our papers were designed so that, as a candidate progresses through the paper, the questions as a whole become more demanding. However, throughout the paper there will still be some items that are accessible to all, thus encouraging candidates to persevere through to the end of the paper. This is something we introduced in the 2009 qualification and we have retained this for our 2016 qualification.

Command words

We have paid close attention to the use of command words:

- We only use one command word in any one item.
- Where possible it will appear at the start of an item.

The following table lists the command words used in the external assessments:

Command words	Definition
Analyse	Break something down into its component parts; this could be in relation to movement analysis.
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....'
Calculate	Requires computation in relation to fitness data.
Classify	Requires to group or place on a scale based on characteristics/analysis of characteristics.
Complete	Requires 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	Requires to give the meaning of a word/term.
Describe	Give an account of something without explanation.
Discuss	Requires to explore the issue/situation/problem that is being assessed in the question context, articulating different or contrasting viewpoints, for example, advantages and disadvantages.
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.
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....'
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 multiplechoice

	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 be 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 required 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 learner'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 it requires an example 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....'

Questions addressing different Assessment Objectives

We have placed close attention to the interpretation of the Assessment Objectives and details of how we have built our papers are detailed below. Ofqual requires us to have a specific percentage of each assessment objective, as follows:

Objectives		Weighting
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	<ul style="list-style-type: none"> • Demonstrate and apply relevant skills and techniques in physical activity and sport • Analyse and evaluate performance (This stand is for full course only) 	40%

Which Assessment Objectives is assessed in each component

Full course:

Component	Assessment Objectives				Total for all Assessment Objectives
	AO1%	AO2%	AO3%	AO4%	
Component 1: Fitness and Body Systems	15	12	9	0	36
Component 2: Health and Performance	10	8	6	0	24
Component 3: Practical Performances	0	0	0	30	30
Component 4: Personal Exercise Programme (PEP)	0	0	0	10	10
Total for full course	25%	20%	15%	40%	100%

The above table shows how the Assessment Objectives have been split by component level.

Assessment Objectives 1, 2 and 3 will be assessed in components 1 and 2. AO4 focuses on the NEA only. There are two strands to this Assessment Objective, the first strand focuses on practical performance component 3 and the second on performance analysis component 4. Please note: Component 4 PEP is in the full course only.

Short course:

Component	Assessment Objectives				Total for all Assessment Objectives
	AO1%	AO2%	AO3%	AO4%	
Component 1: Fitness and Body Systems	25	20	15	0	60
Component 2: Practical Performances	0	0	0	40	40
Total for short course	25%	20%	15%	40%	100%

AO1 questions

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

An additional complexity in this qualification is that of *knowledge in isolation*. This is something that Ofqual now requires all awarding organisations to attribute in mark

schemes' Knowledge in isolation is defined as any question which elicits candidates to simply recall from the specification without demonstrating understanding. Only 15% of the total marks in the qualification should be for knowledge in isolation. The remaining 10% of the total marks dedicated to AO1 should be for demonstrating understanding.

For example, the following is an AO1 question showing elements of knowledge in isolation from the specification content only.

(e) Which one of the following fitness tests should be used to measure power? (1)

A Grip dynamometer

B Harvard Step Test

C Sit and reach test

D Vertical jump test

Paper 1: Q1 (e)
 AO1: Knowledge in isolation
 Spec ref: component 1: 3.2.4

Question Number	Answer	Mark
1 (e)	D	(1)

In contrast, the following is an example of an AO1 question which shows both knowledge and understanding.

15 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 _____

Paper 1: Q15 (a)
 AO1: Knowledge and understanding
 Spec ref: component 1: 3.3.3

Question Number	Answer (AO1 – 2 marks)	Mark
15 (a)	<p>One mark each for any two of the following advantages (up to two marks):</p> <p>Any two from:</p> <ul style="list-style-type: none"> • 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) <p>Accept other appropriate advantages.</p>	(2)

AO2 questions

AO2 questions are based on application of knowledge and understanding in novel theoretical and practical contexts. 20% of marks within the qualification should be assigned to AO2. The emphasis here is on the ability of the candidate to apply their knowledge and understanding to make connections between theory and practice.

Use of data will mostly (but not exclusively) be assessed under AO2. For example, an AO2 data related questions:

Jenny is a 16-year-old GCSE PE student. She has just taken the Cooper 12-minute run test.

Table 1 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 1

(h) 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

(Total for Question 1 = 8 marks)

Paper 1: Q1 (h)
AO2:
Application of knowledge and understanding
Spec ref:
Component 1:
3.2.3 and 4.1.4

Question Number	Answer	Mark
1 (h)	B	(1)

Questions can assess more than one assessment objective. For example, an AO1 and

AO2 question:

11 Explain how the alveoli and capillaries work together to provide the muscles with the oxygen they need for recovery after a long-distance run.

Paper 1: Q11
AO1: Knowledge and understanding and AO2: Application of knowledge and understanding
Spec ref: Component 1: 1.2.9

Question Number	Answer (AO1 – 2 marks: AO2 – 2 marks)
11	<p>One mark each for the following linked points.</p> <p>Any one from:</p> <ul style="list-style-type: none">Increased breathing rate means that the alveoli have a high concentration of oxygen (1) as the capillaries surrounding the alveoli have a low concentration of oxygen (1) and the capillaries and/or alveoli have thin walls so gas exchange can take place/diffuses from high concentration to low (1). Therefore, the blood in the capillaries circulates to the muscles/provides the muscles with additional oxygen to aid recovery (1)Due to demands of the exercise there is a lower concentration of oxygen in the capillaries surrounding the alveoli (1) compared to the concentration in the alveoli (1) this creates a diffusion gradient (1) so the oxygen in the alveoli can diffuse/transfer to the capillaries to help recovery (1) <p>Accept any other appropriate responses showing: (4)</p> <p>Up to two marks for how capillaries and alveoli work (AO1) Up to two marks for expansion and application to the demands of the exercise (AO2)</p>

AO3 questions

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 theoretical content.

(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)

Paper 1:
Q15 (bi)
AO3:
Analysis
Spec ref:
Component
1: 3.3.2
and 3.3.3

: 3.3.2 and 3.3.3

Question Number	Answer (AO3 analysis – 3 marks)	Mark
15 (b) (i)	<p>One mark for each analysis of set of fitness test data (up to three marks)</p> <ul style="list-style-type: none"> • 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) <p>Accept other appropriate responses.</p>	(3)

(ii) Justify **one** circuit station for Miriam in order to optimise her performance in netball.

(2)

Question Number	Answer (AO3 evaluation – 2 marks)	Mark
15 (b) (ii)	<p>One mark for justification of activity and one mark expansion on that justification in relation to netball (up to two marks)</p> <p>Accept any one from:</p> <ul style="list-style-type: none"> • 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). <p>Accept other appropriate responses.</p>	(2)

Track and assess

A wide range of free support materials are available to help you measure and assess your students' progress over time, including:

- **Additional set of specimen papers (Full course only)**

The specimen papers assess the level of knowledge and understanding across the whole while exam wizard allows assessment of the level of knowledge and understanding of specific topics. By recording the achievements on the assessments, teachers can then track and measure the progress over time. So the assessment measures where the student is at a certain time. Progress is measured by comparing this result with their previous result.

- **examWizard**

examWizard is a free online exam preparation tool containing a bank of Edexcel GCSE PE exam questions, mark schemes and examiner reports. It helps you search for past papers, mark schemes and examiner reports. Centres can create topic-based tests with the easy-to-use, intuitive question search and you can build your own paper with the latest past papers questions as they become available after each exam series. We are currently in the process of including the specification pre-2009 (1827) papers. Find out more at **www.examwizard.co.uk**.