



GCSE MARKING SCHEME

SUMMER 2025

**PHYSICAL EDUCATION – UNIT 1
SHORT COURSE
3555U10-1**

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

WJEC GCSE PHYSICAL EDUCATION

SUMMER 2025 MARK SCHEME

Question	Mark Scheme	AO1	AO2	AO3	Total
1(a) (i)	Identify the main source of energy an individual will need to complete a marathon Award 1 mark for ticking carbohydrates	1			1
(ii)	Justify your reasons for choosing the source of energy identified in 1(a) (i) 2x1 marks for justifying the choice of food source Award marks for: • Carbohydrates provide energy. • The complex carbohydrates – starches – are stored in the body as glycogen and converted into glucose when the body needs more energy. Glycogen is a slow-release form of energy. • This is particularly useful for endurance athletes in the last stages of a performance. So, for example, in the week leading up to a race, marathon runners may eat lots of starchy foods, such as pasta. (carbo-loading) • This helps them to keep going throughout the race.		2		2
(iii)	Identify a method of training a marathon runner could use to improve endurance. Award 1 mark • continuous training • fartlek	1			1
(iv)	Explain why you have chosen the method of training identified in 1(a) (iii). 1 mark basic explanation 2 marks for more detailed explanation Award marks for • A minimum of 20 minutes sub-maximal work. • Target heart rate range between 60–80% max HR. • Aerobic work. • Lasting longer		2		2
(b) (i)	Evaluate the graph to complete the table. Place terms in the correct box. Zone B – Anaerobic Training Line C - Anaerobic Threshold Zone D – Aerobic Training Line A – Maximal heart rate	4			4

Question	Mark Scheme	AO1	AO2	AO3	Total
(ii)	Describe how threshold E is calculated in Figure 2 Award 1 mark for 60% of MHR	1			1
(c) (i)	Identify the muscles that contract to cause the following movement at the knee joint. Award 1 mark each for: Flexion – Hamstrings (hams) Extension – Quadriceps (Quads)	2			2
(ii)	Outline the following types of muscle contractions. Award 1 mark for identifying any 1 for Concentric: • Muscle shortens as it contracts • Ends of muscle move closer together Award 1 mark for identifying any 1 for Eccentric: • Muscle lengthens as it contracts • lengthening under tension • Ends of muscles move further apart • Acts to decelerate a joint at end of movement	2			2
(iii)	Name two functions of the skeletal system Award 2 marks for identifying any 2 of the following functions: movement, support, protection, production of red blood cells	2			2
(iv)	Explain why a cool down could benefit the marathon runner after a race. Award 1 mark for: • Reduces recovery time/return body to pre-competition levels Award additional mark for the amplification: • Gradually cool body temperature • Return muscles to their optimal length-tension relationships • Prevent venous pooling of blood in the lower extremities • Remove waste product • Replenish nutrients/hydration levels • Reduce effects of DOMS • Repay oxygen debt		3		3
Total Q1		12	8	0	20

Question	Mark Scheme	AO1	AO2	AO3	Total
2(a) (i)	Identify the two main components of fitness required by the javelin thrower Award 2 marks each for: • Power • Strength • Balance • Flexibility	2			2
(ii)	Define each of the fitness components identified in question 2 a(i) above. The components defined MUST be those identified in 2 (a) (i) above. The definition must be an accepted definition for the two components. Award 2x1 marks Award marks for correct definition if component identified in 2 a (1) was incorrect	2			2
(iii)	Name a fitness test for one of the components identified in 2 (a) (i). Award 1 mark for a recognised test Award marks for correct test if component identified in 2 a(1) was incorrect	1			1
(b) (i)	Identify two short term effects of exercise. 2x1 mark Accept any appropriate answers Raised heart rate Reddening of skin Increased tidal volume- more O₂ to working muscles. Body sweats, water evaporates, blood moved to skin surface to regulate temperature. Cardiac output increases $Q=SV \times HR$ Heart Rate increases supplying more oxygen to working muscles. Increase in breathing rate	2			2

Question	Mark Scheme	AO1	AO2	AO3	Total
(ii)	Analyse two aerobic adaptations and how these impact on sporting performance. Award 2x1 marks for identifying adaptations due to taking part in intense physical activity e.g. Cardiac output increases, overtime HR at rest may lower, increased tidal volume Many opportunities to answer the question and tolerance required for degree of adaptation Period of time and intensity may be interpreted differently. Award 4 marks for ANALYSIS Increased tidal volume- more O₂ to working muscles. Body sweats, water evaporates, blood moved to skin surface to regulate temperature. Cardiac output increases $Q=SV \times HR$ More efficient gaseous exchange Shunting of blood to working muscles becomes more efficient. Release of glycogen to allow more efficient use of working muscles. Adrenalin released to allow body to be more fully prepared for activity. Heart Rate increases supplying more oxygen to working muscles. Overtime HR at rest may lower due to training. Any other links of adaptations to improvement in performance See band marks below	2		4	6

Band	AO1 2 Marks	AO3 4 Marks
3		4 marks Excellent analysis on how these adaptations could improve sporting performance The response is well balanced and detailed. The response is clearly expressed and shows accurate use of technical terminology. Writing is very well structured using accurate grammar, punctuation and spelling
2	2marks Good knowledge of adaptations	2 -3 marks Good analysis on how these adaptations could improve sporting performance The response is balanced. The response is adequately expressed and shows appropriate use of technical terminology. Writing is generally well structured using reasonably accurate grammar, punctuation and spelling
1	1 mark Limited knowledge of adaptations	1 mark Limited analysis on how these adaptations could improve sporting performance The response shows basic use of technical terminology. Writing shows some use of structure but with error in grammar, punctuation and spelling
0	No knowledge of adaptations	No analysis is evident.

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Explain how taking part in regular physical activity can benefit a person's mental and social well-being. Max of 2 marks for social Max of 2 marks for mental 4 marks for an explanation of how taking part in regular physical activity can help mental and social wellbeing EXPLANATION Health is a state of complete mental, physical and social wellbeing (not simply the absence of disease or infirmity). SOCIAL EFFECTS OF EXERCISE increased confidence teamworking / cooperation development self-fulfilment challenging increased self-worth increased respect from peers meet new people mix with people of similar interests increased opportunities MENTAL EFFECTS OF EXERCISE satisfaction with own performance promotes feel good factor can provide excitement gives enjoyment can relieve stress / tension/ aggression feeling of exhilaration develops feeling of being part of something leads to feelings of success helps in forgetting life problems when performing provides new challenges		4		4
Total Q2		9	4	4	17

Question	Mark Scheme	AO1	AO2	AO3	Total
3 (a) (i)	Analyse the diagram to complete the table below 4x1 mark A – Trachea B – Lungs C – Bronchioles D – Alveoli			4	4
(ii)	Explain the function of gaseous exchange 2x1 mark • Swapping of one gas to another. • Oxygenation/Deoxygenation of blood • Oxygen is diffused into the capillaries from the alveoli • Carbon Dioxide is diffused from the capillaries to the alveoli and exhaled out of the body • Alveoli have thin walls to allow gaseous exchange to occur		2		2
(b)	Explain how technology could be used by a coach. Award 1 mark for suitable examples of technology Award further 3 marks on how modern technology can help coaches in sport with appropriate examples such as: • How it is used to analyse movement and sport performance to improve performance. • How it is used as movement analysis • To make judgements more objective, using data to inform team selection • To identify strengths and areas for improvements. • Develop training programmes The coach and coaching process use a variety of methods to analyse tactics and techniques. They analyse strategies and tactics of the own team and the opposition to inform training and match preparation.	1	3		4

Question	Mark Scheme	AO1	AO2	AO3	Total
(c)	Explain, using sporting examples, how performers use technology to improve their performance. Maximum of 1 mark for a response providing a basic example of a device used which can be of benefit to a participant. There are numerous examples of modern technological devices that candidates will be familiar with. Phones, I pods, apps, Fitbit, Social Media can be used to monitor, record participants efforts. Music, cameras, video facilities. GPS devices. Data analysis using a variety of sources including those found in gymnasia and technology within personal devices. A question where candidates can engage fully with the question using personal examples, experience and knowledge of the content. Must link to improvement in performance for maximum marks		3		3
Total Q3		1	8	4	13

	Q1	Q2	Q3	TOTAL
AO1	9	9	2	20
AO2	7	4	4	15
AO3	4	4	7	15
TOTAL	20	17	13	50