

GCSE

PHYSICAL EDUCATION

48903: Knowledge and Understanding for the Active Participant
(Full Course and Double Award)
Mark scheme

June 2014

Version: 1.0 Final

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available from aqa.org.uk

Section A – Part 1 Multiple Choice

Award **one** mark for each correct answer.

1 Which one of the following is **not** a core theme of the Healthy Schools Programme?
[1 mark]

The National Curriculum for physical education

2 Which **one** of the following is a role that can be adopted as part of the GCSE Physical Education Course?
[1 mark]

Official

3 Which **one** of the following components of fitness is best improved through 'continuous training'?
[1 mark]

Cardiovascular endurance

4 Which **one** of the following statements best describes the term 'progression' when training?
[1 mark]

Training is increased gradually as the body adjusts to the increased demands

5 Which **one** of the following statements best describes the term 'adduction' at a ball and socket joint?
[1 mark]

The movement of a limb towards the midline of the body

6 To find a winner quickly, when a large number of teams have entered, the best type of competition would be a:

[1 mark]

Knockout

7 Which **one** of the following athletic events is an example of an aerobic activity?

[1 mark]

5000m

8 One benefit of a cool down is that it:

[1 mark]

Reduces the risk of muscle stiffness after exercise

9 Which **one** of the following is a benefit of training at altitude?

[1 mark]

It increases the oxygen-carrying capacity of blood

10 Which **one** of the following equations summarises the process of aerobic respiration?

[1 mark]

Glucose + oxygen \longrightarrow energy + carbon dioxide + water

Section A – Part 2 Short answer questions

11 Name the **two** types of movement that can occur at a hinge joint. **[2 marks]**

Award **one** mark for correctly naming each type of movement that can occur at a hinge joint.

- Flexion or bending or decreasing the angle (between the bones).
- Extension or straightening or increasing the angle (between the bones).

12 (a) What is meant by the term 'reaction time'? **[1 mark]**

Award **one** mark for stating what is meant by the term reaction time.

Reaction time is:

how fast or how quickly or the time taken (for the body, or part of the body) to respond to a stimulus.

Accept appropriate examples, eg time taken by a sprinter at the start of a 100m race to move the body after the sound of the starting gun.

12 (b) What is meant by the term 'balance'? Give an example from a physical activity where a performer uses balance. **[2 marks]**

Award **one** mark for stating what is meant by the term balance.

The ability to:

- maintain a given posture to be able to stay level or stable
- keep the centre of gravity over the base
- maintain equilibrium
- control the body in movement and stillness.

Accept any other suitable response.

Award **one** mark for an example of where a performer uses balance.

- Handstand (in gymnastics).
- Holding the 'set' position in the starting blocks (in athletics).
- A skier staying upright whilst moving downhill.

Accept any other suitable response.

13 (a) What is meant by the term ‘fatigue’?

[1 mark]

Award **one** mark for stating what is meant by the term fatigue.

Fatigue is a feeling of **extreme** or **severe** (physical or mental) tiredness or exhaustion.

13 (b) Explain how fatigue may occur **and** state the negative effect that it can have on a performer in a named physical activity.

[2 marks]

Award **one** mark for how fatigue may occur.

Caused by:

- over exertion
- prolonged physical activity
- build-up of lactic acid
- lack of oxygen to the muscles
- when energy demand out-strips supply.

Accept any other suitable response.

Award **one** further mark for stating the negative effect that it can have on a performer in a named physical activity.

A performer may:

- lose concentration
- be substituted
- make unforced errors
- not be able to (keep up with) play.

Accept any other suitable response.

NB Do **not** accept performance will decrease/get worse unless qualified.

14 (a) Give an example of a sports qualification **and** state how it may encourage an individual to become involved in or stay involved in physical activity or sport.

[2 marks]

Award **one** mark for giving an example of a sports qualification and **one** further mark for stating how it may encourage an individual to become involved in or stay involved in physical activity or sport.

- Leadership or coaching awards/ encourages people to stay involved in sport as a career.
- Sports Performance or Proficiency awards/ provide rewards for participants to provide motivation for continued participation.
- Referee or Umpiring Awards/ allows people to participate in an activity if not wanting to participate as a player or allows players to become officials after playing days are over.

Accept any other suitable response.

NB Accept appropriately named qualifications.

Do **not** accept examination-based courses.

Example must be correct to credit further mark.

<p>14 (b)</p> <p>The National Curriculum for physical education groups activities into different ways of thinking. ‘Performing at maximum levels’ is one of the ways of thinking and athletics is an example of an activity in this group.</p> <p>Complete Table 1 to identify two other ways of thinking, and state one activity within each.</p> <p style="text-align: right;">[4 marks]</p>
--

Award **one** mark for identifying each other way of thinking and **one** further mark for stating activities within each (2x2).

Way of thinking	Activity
Outwitting opponents	American football, rugby (union or league), football, futsal, 5-a-side, badminton, basketball, baseball, rounders, softball, cricket, stoolball, gaelic football, handball, hockey (field or ice or roller or indoor), hurling, camogie, lacrosse, netball, korfbal, polo, squash, racquetball, table tennis, tennis, volleyball, water polo, fencing, boxing, judo, ju jitsu, karate, kickboxing, tae kwon do, goalball, horseball, ultimate Frisbee, polocrosse, tchoukball, Olympic wrestling
Accurate replication (of actions, phrases and sequences)	Gymnastics (artistic or compositional or rhythmic), trampolining, tumbling, cheerleading, ballroom dancing, diving, skateboarding, synchronised swimming, artistic rollerskating, acrobatic gymnastics, figure skating, baton twirling, majorettes, BMX tricks
Exploring and communicating (ideas, concepts and emotions)	Dance (accept different styles of dance such folk, country, historical, ice, modern educational, social, street, theatrical)
Identifying and solving problems OR problem solving (to overcome challenges)	Canoeing, kayaking, climbing, cycling, mountain biking, horse riding, life-saving, mountain activities, orienteering, personal survival, rowing, sculling, sailing, skiing, snowboarding, surfing, windsurfing, wakeboarding, water skiing
Exercising safely (and effectively to improve health and well-being)	Aerobics, step aerobics, aqua aerobics, aqua fit, circuit training, pilates, indoor rowing, Speed Agility Quickness training, tai chi, yoga, weight training, boxercise

NB An activity cannot be credited unless a correct way of thinking has been identified.

15 Body temperature control is one function of blood within the body. State and describe the other **two** functions. **[4 marks]**

Award **one** mark for stating and **one** further mark for describing each function of blood within the body (2 x 2).

- Transport or carrying or supplying/ blood or water or oxygen or nutrients or waste products around the body.
- Protection or it helps to fight disease or to clot the blood/ eg antibodies or white blood cells which fight infection are carried in the blood or platelets seal cuts and wounds.

16 An individual may take part in non-competitive activities as part of their leisure and recreation time. State **five** benefits of taking part in a non-competitive activity. **[5 marks]**

Award up to **five** marks for stating benefits of taking part in a non-competitive activity.

- General fitness can be improved.
- Specific aspects of fitness can be improved/ including flexibility/ stamina/ agility etc.
- General health can be improved.
- Physical health benefits/ including weight loss/ body shape/ lower cholesterol etc.
- Mental health benefits/ including stress release/ feel good factor/ having fun/ improved self-esteem etc
- Activities are not generally stressful on the body's cardiovascular and skeletal systems.
- Can be suitable for all age ranges.
- Participation can carry on throughout life.
- Group activities can provide social benefits by meeting and carrying out the activity with others.
- Completing activities can be done at the individual's pace.
- Being non-competitive can be appealing in itself.
- May involve club activities, which can motivate a person to regularly participate.
- Suitable for males and females to participate together.

Accept any other suitable response.

17 (a) An ectomorph is one body type. Name **two** other body types.

[2 marks]

Award up to **two** marks for naming other body types.

- Endomorph
- Mesomorph

17 (b) Describe an ectomorph.

[3 marks]

Award up to **three** marks for the correct description of an ectomorph.

An ectomorph is:

- slender or slim or thin or skinny
- thin arms and legs
- narrow shoulders
- narrow hips
- very little muscle
- very little fat
- long (tall) – accept short.

17 (c) Explain **one** advantage that having an ectomorph body type would give in a named physical activity.

[2 marks]

Award up to **two** marks for explaining an advantage that having an ectomorph body type would give in a named physical activity.

Examples include:

- in endurance activities (marathon or long distance running) it would be easier to run/ because very little weight to be carried around
- in high jump a lighter body weight/ would make it easier to jump over the bar.
- in netball it would be an advantage because a goal shooter would have a higher reach/ to give the team a higher chance of scoring.
- in basketball it would be an advantage because it would be easier for the player to shoot/ as they are closer to the basket or the opposition wouldn't be able to block the shot.

Accept any other suitable response.

NB The advantage must be given to credit the explanation.

Section B – Questions based on the preliminary material

18 (a) State and explain the type of strength that would help the Westshore netball players to be more successful when rebounding near the post.

[2 marks]

Award **one** mark for stating the type of strength that would help the Westshore netball players to be more successful when rebounding near the post.

- Explosive strength

Award **one** further mark for an explanation.

- Allows the players to jump higher or further or as high as you can.

18 (b) Apart from a decrease in strength, state **two** physical effects of ageing on the body **and** explain how each may decrease the performance of a Westshore netball player.

[4 marks]

Award **one** mark for stating each physical effect of ageing on the body and **one** further mark for explaining how each may decrease the performance of a Westshore netball player (2x2).

- Oxygen capacity reduces/ become tired quicker so struggle to compete late in games.
- Flexibility decreases/ find it difficult to stretch for passes which may result in more interceptions.
- Speed decreases/ unable to move around court quickly and get away from a marker.
- Agility decreases/ unable to change direction quickly and lose a marker.
- Co-ordination decreases/ more likely to drop the ball.
- Reaction time increases/ less likely to be able to intercept the ball.

Accept any other suitable response.

NB Do **not** accept power.

18 (c) State **two** different types of sponsorship **and** explain how each could help to improve the players' performance.

[6 marks]

Award **one** mark for each different type of sponsorship and up to **two** further marks for an explanation of how each could help to improve the players' performance (2x3).

- Equipment eg balls/ higher quality/ enables advanced skills to be developed.
- Clothing eg team kit/ which boosts confidence or morale/ so that they work better as a team.
- Footwear/ improves grip/ to stop them from slipping.
- Transport and travel/ enter more competitions a greater distance away/ to play a greater variety of teams.
- Money/ to employ a coach/ to develop advanced skills.
- Facilities/ train more often/ to develop fitness.
- Entry fees or league fees/ enter more competitions/ play at a higher level.

Accept any other suitable response.

18 (d)	<p>Explain how Miss Tears could help Westshore Netball Club attract junior membership through her role as a physical education teacher at the local secondary school.</p>	[8 marks]
---------------	---	------------------

Please use the following grid to award a mark for both the content and the Quality of Written Communication (QWC) based on the following information.

Level 3	6-8 marks	<p>Detailed and accurate</p> <p>Demonstrates detailed knowledge and thorough understanding of the ways that Miss Tears could help Westshore Netball Club attract junior membership through her role as a physical education teacher at the local secondary school.</p> <p>Answers should include three explanations, two of which must be detailed.</p> <p>NB Two detailed explanations (maximum 6 marks).</p> <p>Students spell, punctuate and use the rules of grammar accurately and use a wide range of specialist terms precisely.</p>
Level 2	3-5 marks	<p>Sound and generally accurate</p> <p>Demonstrates sound knowledge and understanding of the ways that Miss Tears could help Westshore Netball Club attract junior membership through her role as a physical education teacher at the local secondary school.</p> <p>Answers should include two sound explanations.</p> <p>NB One detailed explanation (maximum 3 marks).</p> <p>Students spell, punctuate and use the rules of grammar with reasonable accuracy and use a range of specialist terms appropriately.</p>
Level 1	1-2 marks	<p>Basic</p> <p>Demonstrates basic knowledge and understanding of the ways that Miss Tears could help Westshore Netball Club attract junior membership through her role as a physical education teacher at the local secondary school.</p> <p>NB A list of ways with no explanation (maximum 1 mark).</p> <p>Students spell, punctuate and use the rules of grammar with some accuracy and use a limited number of specialist terms.</p>
0 marks		No creditworthy material.

QWC is part of the award of marks in levels marked questions only. In levels marked answers the quality of physical education is assessed and a level mark awarded based on the content. As this is sometimes the case, the physical education may be sound at a particular level but the examiner may not be sure as to whether there is quite enough to raise the mark within that level. In this case the examiner should consider the QWC of the answer. QWC that fulfils the criteria for the level should lead to a rise in the mark but where QWC does not fulfil the criteria, the answer should remain at the mark first thought appropriate.

In cases where QWC has been used in the award of marks, the examiner should indicate this in a comment box say 'QWC raised one mark'. QWC cannot be used to raise a candidate's mark into the next level.

Examples of content could include:

- Netball on curriculum providing basic skills to encourage further participation.
- Expertise in Netball allows sessions to be fun and interesting to encourage students to take part.
- Role model due to her playing netball.
- Run extra-curricular clubs or provide fixtures to extend interest and skills further.
- Creating school-club links by getting coaches from the club to run sessions in school/providing flyers to encourage students to join the club.
- Provide facilities at the school for the club to train at which is a familiar environment for students so make them more inclined to join club.
- Working with National Governing Body.

Example Answers

Level 3 (8 marks)

Miss Tears could make sure netball is on the curriculum so students are playing it. This will allow them to develop their basic skills which will hopefully motivate them to participate in netball outside of school. In addition to this Miss Tears may arrange for some coaches from Westshore Netball Club to come into school and run some taster sessions for students to encourage them to attend the club on an evening. To help with this they will distribute flyers to promote the club. This will enable the students to become familiar with the coaches at the club which will help integrate them if they attend the club. Miss Tears could arrange for the club to move its training and matches to the school site. As this venue is familiar with students it could encourage them to join the club as they will not be going somewhere they are uncomfortable with.

Level 2 (4 marks)

Miss Tears could make sure netball is on the curriculum so students are playing it. This will allow them to develop their basic skills which will hopefully motivate them to participate in netball outside of school. In addition to this Miss Tears may arrange for some coaches from Westshore Netball Club to come into school and run some taster sessions for students to encourage them to attend the club on an evening.

Level 1 (1 mark)

Miss Tears could make sure netball is on the curriculum so students are playing it.

<p>19 (a) Describe the correct technique that the Westshore players should use when lifting their netball posts into position on the court.</p> <p style="text-align: right;">[2 marks]</p>
--

Award up to **two** marks for describing the correct technique that the Westshore netball players should use when lifting their netball posts into position on the court.

- Bend knees
- Keep back straight
- Keep the post close to the body
- Pivot posts
- Two people to share the load

Accept any other suitable response.

19 (b) Westshore Netball Club was set up by a group of friends of the same age.

19 (b) (i) State **one** other social group that may affect an individual's participation in a physical activity.

[1 mark]

Award **one** mark for stating another social group that may affect an individual's participation in a physical activity.

- Family (accept specific family members)
- Gender
- Ethnicity or Culture or Religion or Race

NB Do not credit friends as this is in the question stem. Do not credit peers.

19 (b) (ii) Explain how the social group that you have stated in your answer to **19 (b) (i)** may discourage participation in a physical activity.

[3 marks]

Award up to **three** marks for explaining how the social group stated in the answer to 19 (b) (i) may discourage participation in a physical activity.

Family: may not provide support or encouragement/ may have safety concerns over participation or lack of interest in sport or may have had a negative experience of the sport (earlier in life)/ may pressure young people to concentrate on academic work rather than practical physical activity/ cannot supply financial support/ in the form of equipment or kit/ coaching/ transport.

Gender: Lack of facilities aimed at women/ lack of female teams/ lack of female coaches/ barriers created by incorrect stereotyping/ eg a women's role is in the home.

Ethnicity: Dress Codes/ may limit participation in certain sports/ as parts of the body may need to be kept covered/ this could result in embarrassment or low self-esteem.

Culture Single sex rules (eg Muslim)/ prevent women from participating in mixed sex activities/ or as women's role may be perceived as in the home in certain cultures.

Religion Due to cultural or religious beliefs/ some people may be (stereotypically) drawn/ towards certain activities.

Accept any other suitable response.

19 (c) A person's diet can affect their ability when participating in physical activity.

Name **two** nutrients the Westshore netball players should include in their diets **and** explain how each could help to improve their performance late in matches.

[6 marks]

Award **one** mark for each nutrient named and up to **two** further marks for explaining how each could help to improve their performance late in matches (2x3).

- Proteins/ will help with the growth or repair of muscles to reduce recovery time between matches/ which will delay the feeling of tiredness.
- Carbohydrates or fats/ to provide energy throughout the whole game/ to ensure they can compete to their maximum.
- Water/ to maintain fluid levels or to avoid dehydration to help concentration or reduce fatigue/ to continue to compete effectively (make fewer mistakes).
- Minerals eg Iron/ increase the body's efficiency to carry oxygen to the working muscles of the body/ which will allow them to compete effectively for longer.
- Vitamins eg vitamin C/ to protect against disease and infection which will enable training to continue/ so fitness levels will not be lost.
- Fibre/ helps reduce levels of cholesterol making the heart more efficient/ which will allow them to keep working for longer.
- Fats/ can act as an insulator to help keep players warm/ so they can continue to compete in cold weather.

NB Named vitamins and minerals correctly linked to how it helps performance are acceptable. Fats can only be credited once.

19 (d) Using your knowledge of the training year, explain how each season could contribute to improving a player’s performance at Westshore Netball Club. **[8 marks]**

Please use the following grid to award a mark for both the content and the Quality of Written Communication (QWC) based on the following information.

Level 3	<p>6-8 marks Detailed and accurate</p> <p>Demonstrates detailed knowledge and thorough understanding of how each season could contribute to improving a player’s performance at Westshore Netball Club.</p> <p>Answers should include 3 explanations, two of which must be detailed</p> <p>NB Two detailed explanations (maximum 6 marks).</p> <p>Students spell, punctuate and use the rules of grammar accurately and use a wide range of specialist terms precisely.</p>
Level 2	<p>3-5 marks Sound and generally accurate</p> <p>Demonstrates sound knowledge and understanding of how each season could contribute to improving a player’s performance at Westshore Netball Club.</p> <p>Answers should include two sound explanations.</p> <p>NB One detailed explanation (maximum 3 marks).</p> <p>Students spell, punctuate and use the rules of grammar with reasonable accuracy and use a range of specialist terms appropriately.</p>
Level 1	<p>1-2 marks Basic</p> <p>Demonstrates basic knowledge and understanding of how each season could contribute to improving a player’s performance at Westshore Netball Club.</p> <p>NB A list of ways with no explanation (maximum 1 mark).</p> <p>Students spell, punctuate and use the rules of grammar with some accuracy and use a limited number of specialist terms.</p>
0 marks	No creditworthy material.

QWC is part of the award of marks in levels marked questions only. In levels marked answers the quality of physical education is assessed and a level mark awarded based on the content. As this is sometimes the case, the physical education may be sound at a particular level but the examiner may not be sure as to whether there is quite enough to raise the mark within that level. In this case the examiner should consider the QWC of the answer. QWC that fulfils the criteria for the level should lead to a rise in the mark but where QWC does not fulfil the criteria, the answer should remain at the mark first thought appropriate.

In cases where QWC has been used in the award of marks, the examiner should indicate this in a comment box say 'QWC raised one mark'. QWC cannot be used to raise a candidate's mark into the next level.

Examples of content could include:

- Pre-season/Out of Season; period leading up to competition used to increase aerobic fitness; using continuous/fartlek/interval training sessions; weight training to build up strength and muscular endurance; developing techniques specific to netball/fully prepared for matches at start of season/more successful
- Competition/Peak Season/Playing Season; taking part in matches every week; maintenance of fitness related to the activity but not too much training as may cause fatigue which would decrease performance; concentration on skills/set plays to improve team performance
- Closed season/Post (off) Season; period of rest to recuperate/currently not doing this which may be causing fatigue/boredom; players doing gentle aerobic exercise to maintain general fitness/fully rested and ready for pre-season training

Example Answers

Level 3 (8 marks)

The club could have a period of pre-season training before the league starts where they focus on improving aerobic fitness levels. This could be continuous training such as long distance jogs or interval training where there are alternate periods of high and low intensity which will help develop aerobic fitness. Sessions could also include weight training which will develop muscular endurance so that fatigue does not develop late in games. Alongside this they could run skill sessions to develop techniques so that they are prepared for the start of the league. During peak-season, when the league is taking place the club just need to maintain the players fitness as they are playing matches every week. Therefore training sessions will not be too hard so that they don't cause fatigue amongst the players. The club should also focus on developing new and refining old set plays to help improve team performance in games. After the league has finished, post-season, the club needs to give their players some time off to rest and recuperate. However to ensure that aerobic fitness levels do not drop too far some light jogging should be carried out.

Level 2 (4 marks)

The club could have a period of pre-season training before the league starts where they focus on improving aerobic fitness levels. This could be continuous training such as long distance jogs. Alongside this they could run skill sessions to develop techniques so that they are prepared for the start of the league. During peak-season, when the league is taking place the club just need to maintain the players fitness as they are playing matches every week. Therefore training sessions will not be too hard so that they don't cause fatigue amongst the players.

Level 1 (1 mark)

The club could have a pre-season before the league starts where they focus on improving fitness levels by doing continuous training.

Assessment Objectives

Question Number	Assessment Objectives		Total Marks
	AO1	AO3	
1	1		1
2	1		1
3	1		1
4	1		1
5	1		1
6	1		1
7	1		1
8	1		1
9	1		1
10	1		1
11	2		2
12(a)	1		1
12(b)	2		2
13(a)	1		1
13(b)	2		2
14(a)	2		2
14(b)	4		4
15	4		4
16	5		5
17(a)	2		2
17(b)	3		3
17(c)		2	2
18(a)	1	1	2
18(b)	2	2	4
18(c)	2	4	6
18(d)	3	5	8
19(a)	2		2
19(bi)	1		1
19(bii)		3	3
19(c)	2	4	6
19(d)	3	5	8
Total marks	54	26	80

UMS conversion calculator www.aqa.org.uk/umscoversion