

Examiners' Report  
June 2013

GCSE Physical Education 5PE01 01

## Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at [www.edexcel.com](http://www.edexcel.com) or [www.btec.co.uk](http://www.btec.co.uk).

Alternatively, you can get in touch with us using the details on our contact us page at [www.edexcel.com/contactus](http://www.edexcel.com/contactus).



### Giving you insight to inform next steps

ResultsPlus is Pearson's free online service giving instant and detailed analysis of your students' exam results.

- See students' scores for every exam question.
- Understand how your students' performance compares with class and national averages.
- Identify potential topics, skills and types of question where students may need to develop their learning further.

For more information on ResultsPlus, or to log in, visit [www.edexcel.com/resultsplus](http://www.edexcel.com/resultsplus). Your exams officer will be able to set up your ResultsPlus account in minutes via Edexcel Online.

### Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: [www.pearson.com/uk](http://www.pearson.com/uk).

June 2013

Publications Code UG036604

All the material in this publication is copyright  
© Pearson Education Ltd 2013

## Introduction

The Physical Education Full Course Paper (5PE01/01) is a one and a half hour examination. It consists of 10 multiple choice questions, a series of short answer questions, accounting for 58 marks (these are a mixture of one, two and three mark questions), and two extended answer questions of 6 marks. The paper total is 80 raw marks.

To be successful candidates need to recall and apply their knowledge and express their ideas clearly. Questions are designed to elicit different levels of response, this is indicated through the number of available marks for the question and the selection of specific command words such as describe, explain, discuss. Generally these questions require candidates to be able to develop their ideas, following a point through in greater depth rather than providing a more generalised approach to their responses.

Prior to the 2013 series information was made available to centres regarding the amendment to the paper format compared to previous series. This change resulted in fewer one mark questions and a corresponding increase in the number of two and three mark, describe, explain, questions. The format of the extended answer question remained unchanged from 2012.

The change in format afforded greater opportunity for differentiation, with some excellent responses to the questions, details of which can be seen below.

Question 1 consisted of 10 multiple choice questions of varying demand. For example, questions Q1(f) and Q1(j) were very accessible questions, in each case the vast majority of candidates identified the correct answer. Both questions related to health, (f) alcohol effects on the body and (j) effects of calcium. Candidate performance on Q1(f) indicates that the use of 'not' (i.e. selecting the 'odd one out') in the multiple choice questions is well managed by candidates, that they understand what they need to do to determine the correct answer. The multiple choice questions providing more demand, 1(c), 1(g), 1(h) and Q1(i), did so through increasing the processing or 'links' that candidates needed to make in order to arrive at the correct response. For example, in Q1(c) candidates needed to interpret a graph, noting the drop in resting heart rate as a positive outcome which could only be brought about through option B, i.e. increased fitness through increased training loads. Therefore candidates were required to consider more than one concept. Q1(h) required knowledge of the respiratory and circulatory systems and the effect of smoking. Candidates who understood option A (high blood pressure) was linked to the circulatory system rather than the respiratory system selected the correct option. Those who were aware of the top three causes of death due to smoking will have been able to identify that options B, C and D related to the respiratory system. (The specification - page 15, requires candidates to be able to 'explain the effects of smoking on general health'). Questions 1(g) and 1(i) again increased complexity through the need to link parts of a statement, identifying which statement was 'correct'. Despite these complexities over half the cohort correctly answered these questions.

A range of responses was given for questions 2 - 17 and commonly seen correct and incorrect responses are discussed in this report.

## **Question 2**

The total mark for Question 2 was 6, each cell of the table represented 1 possible mark. The command words 'identify' and 'state' reinforced the need for non-discursive responses. The question asked candidates to focus on the mental health benefits of participation in physical activity therefore reference to social or physical health benefits in (a) would not gain credit, however these could be credited in (b) if valid. For example, a mental health benefit of increased self-esteem (a) could be achieved due to improved opportunity to mix with others, making new friends (b).

Some candidates repeated a benefit in (a), for example stating increased self-confidence and increased self-esteem, this would only be credited once in (a) however, providing the responses in (b) were different and valid credit for each could still be gained.

Of the correct examples of benefits given by candidates, aesthetic appreciation appeared to be the least understood as even those that correctly opted for this benefit often linked (b) to an aesthetic appreciation of their body rather than an appreciation of a skilled movement. Stress relief was a popular correct response in (a), the majority of candidates then went on to state this was reduced by taking your mind off of your problems, although a few candidates incorrectly linked serotonin with stress relief. Although serotonin is released and would be credited if linked to 'feel good', it is the distraction of activity that was required for credit in relation to stress relief.

2 The individuals in **Figure 3** benefit from healthy, active lifestyles.



**Figure 3**

In the table below:

- (a) Identify **three** mental health benefits of regular participation in physical activity. (3)
- (b) State how each of your identified benefits is achieved. (3)

(a) Benefit of regular participation for mental health	(b) How your stated benefit is achieved
Relieve stress	by playing a sport, you will forget your problems.
Improve confidence	by improving your performance <del>it can</del> you can beat other opponents
Increases happiness	by enjoying <del>playing</del> the sport you like, and playing with friends



**ResultsPlus**  
Examiner Comments

This response gained the maximum 6 marks.

Three marks for correctly identifying three different mental health benefits (reduced stress, increased confidence and increased happiness). Three marks for stating how each of these could be achieved (stress relief by forgetting your problems; increased confidence through improvement in performance and increased happiness through playing the sport with friends).

2 The individuals in **Figure 3** benefit from healthy, active lifestyles.



**Figure 3**

In the table below:

- (a) Identify **three** mental health benefits of regular participation in physical activity. (3)
- (b) State how each of your identified benefits is achieved. (3)

(a) Benefit of regular participation for mental health	(b) How your stated benefit is achieved
'feel good' factor	by the release of serotonin during physical activity
stress relief	focusing on sport takes your mind off other problems that are causing you stress
increased self confidence	if previously overweight, losing weight through physical activity will boost body image confidence



**ResultsPlus**  
Examiner Comments

This candidate also gained 6 marks for their response. The mental benefits of 'feel good factor' due to serotonin, stress relief by focusing on the sport rather than other problems, and increased self confidence through improving body image. This is only credited as context of being overweight is given.



**ResultsPlus**  
Examiner Tip

If you identify weight loss as a benefit of physical activity do not forget to put this in the correct context of being overweight first. Weight loss will not be a benefit if you are already the correct weight, or if you are underweight.

## Question 4

In part (a) candidates were given a stem to help 'set the scene' and give the question a supportive context. Many candidates used this stem in their responses to good effect, identifying that more people would be likely to become involved in physical activity if it were 'free' to do so. Other correct responses identified the broader purpose of increasing health and fitness of communities.

In part (b) the question asked for a description of **one** way in which this initiative would contribute to a healthy, active lifestyle. Any area of health could have formed the focus for this part of the question (physical; social or mental) provided there was a clear link between the aspect of health and the purpose of the initiative. For example, answers could focus on social health benefits as a result of meeting others at the activity sessions rather than being isolated. Popular correct responses tended to focus on physical health benefits. As two marks were available for this section of the question a developed response was required rather than several simple statements about differing aspects of health.

4 A local authority pays retired PE teachers to run free fitness sessions for parents with young children. Another opened up its sports centres for use, free of charge, during the day.

(a) Identify **one** common purpose of these local authority initiatives. (1)

Encourage people to participate in sport. (1)

~~Encourage people to participate in sport~~

~~Stay stay succeed. into~~

Stay stay succeed

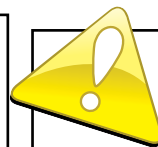
(b) Describe **one** way in which the purpose you have identified in 4(a) contributes to the development of a healthy, active lifestyle. (2)

Encouraging people to take part in sport means they will be able to help maintain their weight or even start to lose weight with a balanced diet. As they will be doing more sport they will increase their health and fitness. Therefore at less risk of diseases like heart attacks and also more likely to do more of the sport.



### ResultsPlus Examiner Comments

This response gains the maximum three marks. In (a) credit is given for 'encouraging people to participate' and in (b), in the second half of the answer the candidate provides a developed point about the value in relation to physical health. Any aspect of health could be developed in this way. There is an initial point made, 'doing more sport they will increase their health and fitness', which is then expanded on: 'therefore less risk of heart attack'.



### ResultsPlus Examiner Tip

Make sure you read the question carefully, if a question specifically asks for **one** example this is all you need to provide. Check the command word used in the question and the number of marks available, this will help you gauge the depth of response you need to give.

4 A local authority pays retired PE teachers to run free fitness sessions for parents with young children. Another opened up its sports centres for use, free of charge, during the day.

(a) Identify **one** common purpose of these local authority initiatives.

(1)

To ~~maintain~~ encourage people to maintain fitness through physical activity.

(b) Describe **one** way in which the purpose you have identified in 4(a) contributes to the development of a healthy, active lifestyle.

(2)

If you are fit, you can easily meet the demands of your environment. Increasing fitness also strengthens bones if you do weight bearing activities which reduces the risk of osteoporosis in later life. You are more healthy also because exercise causes a lower risk of heart disease and prolonged exercise has cardio vascular and respiratory benefits.



### ResultsPlus Examiner Comments

This response also gains the maximum 3 marks. The purpose of increasing fitness is credited in (a) and the description in (b), 'fitness strengthens bones, if weight bearing activity, which reduces osteoporosis in later life'. This would have been sufficient for the 2 available marks, but the response is extended further through the link to other aspects of physical health, 'More healthy because lower risk of heart disease'.



## Question 5

This question required candidates to apply their knowledge of some of the components of health-related fitness to a physical activity of their choice. The candidate choice therefore would impact on their ability to think of suitable examples. Candidates should be prepared and encouraged to change their activity if they find their initial choice is limiting. For example, weight lifting was a popular choice due to clear links with muscular strength; however, those candidates that kept with this activity appeared to experience greater difficulty than others when thinking of examples for muscular endurance and flexibility.

It is vital that candidates are clear in their descriptions or examples in all questions, but particularly those requiring application of knowledge. For example, it should be clear from a response that flexibility is the component being discussed not agility or reaction time; this could easily be confused in the example of a goal keeper suddenly needing to make a diving save. This example could be made clearer by referring to the extremes of the goal, indicating the need for greater reach rather than a sudden change of direction. It is also important to give examples if that is required by the question rather than definitions, unless also supported with examples.

Most candidates followed the instruction in the question to relate all examples to the same activity. Gymnastics and football were popular activities. Given that candidates could select their own activity it was surprising how many candidates talked of 'tricks and stunts' in gymnastics rather than being able to give specific examples which would have been more helpful in their answer.

5 Health-related exercise demands can vary within sporting activities.

For a named activity of your choice, identify a different situation or technique when the stated components, listed below, would be used in this activity.

Name of activity Football

(a) Muscular strength

(1)

To shoulder barge someone off the ball when going in for a tackle. (staying strong)

(b) Muscular endurance

(1)

To play the whole 90 minutes or longer without your muscles tiring

(c) Flexibility

(1)

The goal-keeper needs to be flexible to save high and low shots.



**ResultsPlus**  
Examiner Comments

This response gains 3 marks. Each part of the question links to the activity stated by the candidate (football) and gives a sufficiently clear account of a situation when each component would be used. Muscular strength during tackles; muscular endurance due to context of muscle use for 90 minutes and flexibility for the goalkeeper to save shots going high - implying need for stretch/reach.

5 Health-related exercise demands can vary within sporting activities.

For a named activity of your choice, identify a different situation or technique when the stated components, listed below, would be used in this activity.

Name of activity Tennis

(a) Muscular strength

(1)  
when stroking the ball muscular strength can help you hit the ball harder so your opponent can't return it

(b) Muscular endurance

(1)  
having good muscular endurance allows you to keep hitting the ball hard through the match without tiring.

(c) Flexibility

(1)  
being able to reach low down to return a low shot or one which you have to stretch to reach.



**ResultsPlus**

**Examiner Comments**

This response also gains maximum marks. In this example the candidate has selected tennis as their chosen sport, strength is identified as being used to help generate power in the shots - hitting the ball hard and muscular endurance is linked to this - to allow them to continue to do so throughout the match. Reference to throughout the match gives the endurance context, as linking to hitting the ball this is credited as relating to arm muscles. Finally, flexibility is identified as being used when reaching for the shot, either a low shot or one a distance from the body.

## Question 6 (b)

This question required candidates to apply their knowledge of SMART target setting. Candidates had to explain which statement, from a choice of three, was the 'most effective target'. Candidates appreciated the need to identify the target before going on to explain why they considered this to be the most effective target. Not all candidates opted for 'B'. Those that incorrectly opted for A or C attempted to justify their choices by stating the targets were measurable or specific. No credit was gained for an incorrect option, as all targets were specific, measurable, equally achievable and realistic, but only B was time-bound. Therefore to gain credit candidates needed to explain why B was the most **effective** target. As the only difference between the targets was time-bound the implications of this needed to be the focus of the explanation. Credit was given for explaining B was time-bound; that this meant there would be a deadline which provided the required motivation to train/achieve their goal. On occasion candidates would mention 'time' but in the context of the other aspects of SMART, using it to justify the goals as realistic or achievable, in these instances they failed to gain additional credit.

(b) Explain which of the Year 10 targets, above, would be considered to be the **most** effective target for a performer. (3)

The one I think would be considered to be the most effective target would be B as its time-bound - within the next month, its achievable - he hasn't set something which is impossible and its also realistic. Its also measurable as he can assess this himself.



### ResultsPlus Examiner Comments

This response was awarded one mark for correctly explaining that 'B' would be most effective as it was time-bound. No further credit was given as this answer was not developed, i.e. there was no further explanation regarding why a time-bound target would be more effective than a non time-bound target. Although reference was made to the text in the question, 'within the next month', this was not then used in the context of providing a deadline. The remaining points made could be applied equally to the other targets stated in the question.



### ResultsPlus Examiner Tip

Look for the command words used in the questions as they indicate the depth required for your answer.

(b) Explain which of the Year 10 targets, above, would be considered to be the **most** effective target for a performer.

(3)

B because not only is this target realistic and achievable, It is the only statement which is timebound so the performer can use the month to check her progress and use it as something to aim for.



## ResultsPlus

### Examiner Comments

This response gained 2 marks out of a possible 3. Credit was given for linking target B to the SMART principle 'time-bound' and for explaining that this then provided opportunity for checking progress throughout the month (this was credited as clearly linked to time-bound rather than a general statement about targets being measurable). To gain maximum marks rather than mention this provided an aim (as all targets in the question had a specific aim) reference could have been made to this providing motivation due to the presence of a deadline.

(b) Explain which of the Year 10 targets, above, would be considered to be the **most** effective target for a performer.

(3)

B, because her target is measurable as he has stated how much further he wants to run, it is also timebound therefore he has set himself a cut off point which is good for a performer because they will know if they are making progress and it is also realistic which is an effective target for a performer because it will not drop their confidence as it is not impossible to meet



## ResultsPlus

### Examiner Comments

This response gains the maximum 3 marks available. For the purposes of addressing the question the answer begins on the second line where the candidate states that B is 'time-bound'. There is further explanation of a deadline, linked to monitoring progress, 'set himself a cut off point', 'which is good because they will know if they are making progress'.

## Question 7 (a)

The majority of candidates failed to correctly identify the required heart rate values that a 40-year-old should work between to improve cardiovascular fitness. Some incorrect responses failed to give a range of values, providing a single heart rate, for example, 147 bpm. Others misread the table, opting for percentages other than 60-80% of maximum heart rate. Occasionally candidates would ignore the table and calculate 60/80% of maximum heart rate to arrive at the correct answer.

## Question 7 (b)

This question asked why suggested target zones would differ for 20-40 year olds. Whilst many candidates correctly explained the reason for this, relating their response to the method of calculating target heart rate zones and the impact of age on this, others incorrectly focused on the potential impact of lifestyle and age on fitness levels, stating that the 20 year old would be fitter/healthier and therefore more able to work at a higher training zone/percentage of maximum heart rate.

(b) Explain why the suggested target zone for a 20-year-old is different to that suggested for a 40-year-old.

(3)

Because to work out the target zone, you must find 60 to 80% of your maximum heart rate. Maximum heart rate is  $220 - \text{your age}$ , so a 20 year olds maximum heart rate is higher than that of a 40 year old. This means that a 40 year olds target working zone will be lower than a 20 year olds, because their maximum heart rate is lower.



### ResultsPlus Examiner Comments

This example gained 3 marks. The candidate explains that you need to calculate '60 to 80% of your maximum heart rate', to work out your training zone, the link from this to age is made by explaining that 'maximum heart rate is  $220 - \text{age}$ ', concluding that as a 20 year-old will have a higher maximum heart rate than the 40-year-old, the 40-year-old will have a lower target zone as their maximum heart rate is lower.

(b) Explain why the suggested target zone for a 20-year-old is different to that suggested for a 40-year-old.

(3)

Because as you get older your maximum heart rate decreases, this is because to work it out you take your age from 220. Therefore the target zones of a 40-year-old are smaller than a 20-year-olds.



### ResultsPlus Examiner Comments

This answer gains 3 marks. The candidate explains that due to the formula to calculate maximum heart rate the 40-year-old will have a reduced maximum heart rate. They summarise by drawing the conclusion that 'therefore the target zones of a 40-year-old are smaller than a 20-year-old'.

Without reference to the equation to calculate maximum heart rate no credit would have been gained for simply stating that as you get older your maximum heart rate decreases or that the 20-year-old would have a lower target zone as this much can be established from Figure 4. Both of these points are summary points and therefore gain credit once reference to the calculation for maximum heart rate or target zones has been stated.

(b) Explain why the suggested target zone for a 20-year-old is different to that suggested for a 40-year-old.

(3)

As a 20 year old is much younger, his bones would be much stronger and his body should be in a much better shape to take part in physical exercise. Also, the younger you are the higher your maximum heart rate as it is 220 bpm minus your age.



### ResultsPlus Examiner Comments

This response gains two marks. The opening sentence does not gain credit as it discusses the relative fitness levels of two age groups; this was not required by the question. However, the final statement explains that, 'the younger you are the higher your maximum heart rate as it is 220 - age'. As the candidate has justified why maximum heart rate is higher both marks can be credited.



(b) Explain why the suggested target zone for a 20-year-old is different to that suggested for a 40-year-old.

(3)

because they are younger  
Meaning in the equation  $220 - \text{age}$   
So a 20 year old's maximum heart  
rate should be 200 Bpm where  
as a 40 year olds is only 180 Bpm  
So going up to level like 180 like  
the 20 year old should is ~~dangerous~~  
dangerous and they could have something  
go wrong like a stroke  
or heart attack



**ResultsPlus**

**Examiner Comments**

This response gains 1 mark for identifying the calculation for maximum heart rate '220-age so 20 year-old maximum heart rate is 200'. The reference to maximum heart rate was required to be awarded the mark.

The remainder of the response discusses possible health issues for the 40-year-old should they work at higher than their maximum heart rate which was not a requirement of the question.

## Question 7 (c)

This question asked candidates to explain why resting heart rate is lower than recovery heart rate. The explanation should therefore have focused on resting heart rate to gain maximum credit.

An explanation that made reference to resting heart rate being taken before activity was credited, clarity in response was important here. An answer that stated resting heart rate was when resting would be considered vague, recovery heart rate can also be taken when 'resting', therefore comments stating before activity or when first waking provided the necessary clarity and avoided repeating the phrase being described. Reference to resting heart rate being our 'normal heart rate' was also considered too vague. Once the fact that resting heart rate was taken prior to activity was established, good responses went on to explain that this meant there was consequently less demand for oxygen therefore the heart did not need to beat so rapidly. This type of response would gain maximum credit. For responses that focused on recovery heart rate some credit could be gained by explaining that recovery rate was higher due to increased demand for oxygen (and therefore increased blood flow). Candidates who only discussed working heart rate did not gain credit.

(c) Our heart rate will vary depending on whether we are physically resting, working or recovering.

Explain why resting heart rate is lower than recovery heart rate.

(3)

At resting heart rate your body is not repairing or needing oxygen to repay so your heart rate is low as not a lot of oxygen is needed and muscles are not in great need of oxygen, this differs from a recovery heart rate as when the body is recovering it is needing oxygen to pay back oxygen debts to muscles, muscles also need the oxygenated blood to help repair so it is needed so is delivered faster to help recover quickly.



**ResultsPlus**  
Examiner Comments

This answer gained the 3 marks available. The answer focuses on resting heart rate, explaining that as limited oxygen is required by the muscles heart rate will be slow. This is compared to increased oxygen demand after exercise resulting in recovery heart rate being higher to allow oxygen debt to be paid back.



Our recovery heart rate is higher because it is coming back to resting from the working heart rate. Also, if there was anaerobic respiration, the oxygen debt must be paid back to the muscles so the heart has a faster heart rate in order to pump the oxygenated blood around the body to the muscles faster. This also is the removal of lactic acid.



### ResultsPlus Examiner Comments

The focus of this response is on recovery heart rate rather than resting heart rate. A valid point is made regarding the need for the recovery rate to be higher to aid the removal of lactic acid which is credited with one mark; however no further marks can be awarded as there is no explanation in relation to resting heart rate.

Because <sup>when</sup> ~~at~~ resting ~~heart rate~~ your heart does not <sup>(3)</sup> have to pump blood to ~~it~~ around your body at a fast rate because you don't need it. When recovery you need to pump more blood around the body because you have to repay the oxygen you didn't get to your muscles from earlier, so your heart has to beat a lot more, to get more oxygen.



### ResultsPlus Examiner Comments

This response scored 2 marks. This answer begins by explaining that resting heart rate does not need to be so high because you do not need as much blood to flow around the body. Thus the candidate is explaining that whilst the body is inactive there is less demand on the circulatory system (lower demand for blood). The second mark is for linking increased demand for oxygen with an elevated recovery heart rate to 'repay' the oxygen.



### ResultsPlus Examiner Tip

Be careful when explaining blood flow (or oxygen delivery). It is important to remember that even when inactive we still require blood flow/oxygen, so make sure you talk about 'less' demand rather than no demand.

## Question 8

This question uses the command word 'explain', as a two mark question it was expected that candidates would provide a developed or 'linked' response. As the question stated 'Explain the importance' it was accepted that candidates might explain the importance from either a 'negative' or 'positive' viewpoint, either approach was catered for by the mark scheme, although the majority of candidates explained why we should have micronutrients in a diet from a positive point of view. Explanations were credited for an overarching reason of importance in relation to health, with development being demonstrated through use of a specific example, e.g. calcium for strong bones.

Popular incorrect responses identified fibre and water as micronutrients and/or carbohydrates and fats.

- 8 Explain the importance of micronutrients in maintaining a healthy, active lifestyle.

Micronutrients include vitamins and minerals. These two components are essential to the body to be healthy and stay active. Vitamin D allows calcium to be absorbed and bone structure to be strong.



### ResultsPlus Examiner Comments

This response gains the 2 marks available. Vitamins and minerals are correctly identified and linked to being 'healthy' and a specific example of the importance of vitamin D is given.

- 8 Explain the importance of micronutrients in maintaining a healthy, active lifestyle.

Micronutrients (minerals, vitamins) are important for maintaining health as vitamins and minerals increase or maintain your body's overall level of health e.g. Calcium (mineral) is absorbed by the body to increase/maintain bone strength. They also help the body to defend against disease/illness by making a strong immune system.



### ResultsPlus Examiner Comments

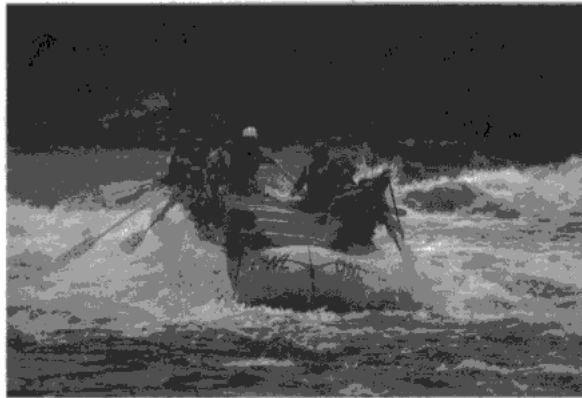
This is another example of a 2 mark response. Vitamins and minerals are identified as micronutrients and their importance stated as 'increase or maintain your body's health'. This is developed through the use of an example.

## Question 9

This question required candidates to apply their knowledge to what would have been for many a novel activity. An image was provided to allow candidates, who were unfamiliar with the activity, to apply their knowledge which the majority successfully did. A variety of responses were given, the most popular relating to the risk of hitting the head on the rocks if crashed, reducing the risk by wearing a helmet, or being struck by someone else's paddle, reducing the risk by ensuring correct spacing/technique.

It was pleasing to see very few candidates used drowning as their answer, as the question asked candidates to identify a risk 'other than drowning'.

9 Participating in activities like whitewater rafting, shown in **Figure 5**, involves risk.



**Figure 5**

Other than drowning, identify a risk that could be associated with this activity **and** a measure that could be used to reduce this risk.

Risk

Falling out and hitting your head on a rock.

Measure to reduce risk

Wear a helmet to protect head from injury.



**ResultsPlus**  
Examiner Comments

Two marks were awarded for this answer. The candidate has identified a risk associated with this activity and a risk reduction measure. Both marks were credited as reference is made to 'hitting your head', thus the 'wear a helmet' was an appropriate measure. Had the risk simply said falling out of the raft, a helmet would not have gained credit as this would not reduce the risk of 'falling out of the raft'.

9 Participating in activities like whitewater rafting, shown in **Figure 5**, involves risk.



**Figure 5**

Other than drowning, identify a risk that could be associated with this activity **and** a measure that could be used to reduce this risk.

Risk

sprained wrist

Measure to reduce risk

make sure you wear a wrist support before beginning rowing.



**ResultsPlus**  
Examiner Comments

One mark was awarded for this answer. Named specific injuries were credited provided potentially linked to the activity. In this answer the candidate gains credit for 'sprained wrist' but not the measure as this should not be necessary.

## Question 10 (b) (ii)

This was a very accessible question, the majority of candidates achieved maximum marks. Where errors occurred they were sometimes due to candidates discussing long term effects of exercise on blood pressure, or would provide an explanation that focused on the respiratory system rather than the circulatory system. Occasionally oxygen debt was also incorrectly referenced. Most candidates however did explain that there was an increase in blood pressure due to increased blood flow. The detail provided by some was of a higher level than required by GCSE PE, giving detail of blood vessel structure and pressure within the varying types of vessels, linking the amount of pressure to the blood vessel structure and function.

(ii) Explain the immediate effect of exercise on blood pressure.

(2)

blood pressure is increased during exercise as more blood is needed to be pumped around the body.



**ResultsPlus**  
Examiner Comments

Two marks awarded. One mark for 'blood pressure is increased' and a second mark for 'as more blood is needed ...'

(ii) Explain the immediate effect of exercise on blood pressure.

(2)

When an individual starts exercise their blood pressure increase, this is because the blood is needed around the body quicker. To increase the speed of the blood the heart contracts harder and faster.



**ResultsPlus**  
Examiner Comments

This is an example of another good response gaining 2 marks. The candidate identifies that blood pressure increases and explains why, 'blood is needed around the body quicker'.

## Question 11 (a)

There were 4 available marks for this question, 2 marks allocated to each explanation. As the question asked for an explanation a developed point in (i) and again in (ii) was required for full marks. The question asked why the respiratory system responded to exercise by increasing the rate and depth of breathing. Due to the requirement to make two developed points some candidates talked about increased breathing rate in (i) and increased depth of breathing in (ii), this was not required, but did not impact on responses. The most frequently occurring mark for this question was 2. In the main this was for identifying that there was an increased breathing rate due to an increased demand for oxygen by the working muscles. Very often the same explanation was repeated in (ii). The less popular correct answer related to the increased need to remove carbon dioxide due to increased production during exercise or reference to gaseous exchange. A similar percentage of candidates achieved 3 or 4 marks for this question as those achieving 1 mark.

A common reason for candidates achieving 1 rather than 2 marks was due to an explanation of the need for more oxygen for the body rather than working muscles, or a lack of reference to the need for 'more' oxygen, to differentiate demand between being inactive and active.

11 As soon as we start to exercise our breathing rate and depth of breathing increases.

(a) Explain **two** reasons why the respiratory system responds in this way when beginning exercise.

(i) Explanation one

(2)

Because you need to inhale more oxygen to fuel your working muscles. This is working aerobically.

(ii) Explanation two

(2)

Because you ~~may~~ increasing the depth of breathing means you can take in more oxygen.



**ResultsPlus**

**Examiner Comments**

This is a 'typical' 2 mark response. Both marks are achieved in the first explanation, 'more oxygen', 'working muscles', no additional credit for the repeated reference to oxygen in (ii).

11 As soon as we start to exercise our breathing rate and depth of breathing increases.

(a) Explain **two** reasons why the respiratory system responds in this way when beginning exercise.

(i) Explanation one

(2)

to increase the rate of gaseous exchange by breathing  
in more frequently <sup>and more air</sup> it does this to ~~increase~~ increase  
<sup>(oxygenate)</sup> O<sub>2</sub> in the blood to deliver to the muscles

(ii) Explanation two

(2)

it increases the rate of gaseous exchange to remove  
more CO<sub>2</sub> from deoxygenated blood



**ResultsPlus**

**Examiner Comments**

In this example the candidate achieves all 4 available marks. In the first explanation reference is made to gaseous exchange; however this is ignored at this point as the explanation regarding increased demand for oxygen by the working muscles is sufficient to achieve the 2 marks. This means that in (ii) credit can be given for linking the increased rate of gaseous exchange to remove more carbon dioxide, thus the candidate achieves maximum marks.



## Question 11 (b)

This is a 3 mark question that required an explanation about the role of the respiratory system in aiding recovery from oxygen debt. Candidates who gave correct responses tended to score 2 marks, although many candidates did not score any marks for this question, on occasion this was due to not attempting the question or through giving a definition of oxygen debt rather than applying knowledge as demanded by the question. The expected response was that the respiratory system helped by increasing breathing rate (or depth as indicated in previous part of question) which meant that more oxygen was available to pay back the 'lost' oxygen. In addition to this credit was also given where candidates explained that this additional oxygen was used to break down or remove lactic acid (thereby helping recovery). Credit was not given for simply saying that the respiratory system helps the body recover/pay back the oxygen debt as this information was given in the question.

(b) Explain how the respiratory system helps the body to recover from oxygen debt after exercise.

(3)

When you respire anaerobically (e.g. if you are doing very hard exercise) there is the incomplete breakdown of glucose, resulting in a build up of lactic acid in our working muscles. When you finish exercising, you continue to breathe fast and deep to intake more oxygen that can be used to oxidise the lactic acid.



### ResultsPlus Examiner Comments

This response gained 3 marks. The first part of the answer sets the scene for the examiner but is not required, the marks are awarded from line four of the response, 'you continue to breath fast', 'to intake more oxygen' 'used to oxidise the lactic acid'.



### ResultsPlus Examiner Tip

Identify key words/phrases in a question to make sure you give the intended answer. The key words here would be 'respiratory system', so you do not talk about the blood and circulatory system; 'recover from oxygen debt' and 'after exercise'.



(b) Explain how the respiratory system helps the body to recover from oxygen debt after exercise.

(3)

The respiratory system helps by maintaining heavy breathing even after exercise. This means more oxygen is taken in than carbon dioxide is produced. The oxygen neutralises the lactic acid produced and repays the oxygen debt.



**ResultsPlus**

**Examiner Comments**

This response also gains 3 marks, it explains that heavy breathing is maintained after exercise so that more oxygen can be taken in to neutralise the lactic acid. No credit would be given for the final point 'repays the oxygen debt'.

(b) Explain how the respiratory system helps the body to recover from oxygen debt after exercise.

(3)

you breathe harder, heavier and deeper to take in more oxygen.



**ResultsPlus**

**Examiner Comments**

This answer gained 2 marks. Credit was given for 'breathing deeper' (1 mark) and 'to take in more oxygen' (1 mark). To gain the third mark reference should have been made to paying back 'lost' oxygen or to the use of the additional oxygen to break down lactic acid.

(b) Explain how the respiratory system helps the body to recover from oxygen debt after exercise.

(3)

by breathing deeper and increasing the breathing rate so the oxygen is sent to the lungs and sent from there to the heart and then to the other needed places.



**ResultsPlus**

**Examiner Comments**

This example gains 1 mark for explaining that breathing rate is deeper. Reference is made to oxygen but the quantity is not mentioned, without 'more' oxygen the point will not be made. What happens to this oxygen is also vague; the explanation does not reference repaying lost oxygen or breaking down lactic acid.

### **Question 13 (b)**

Candidates were asked to identify an exercise activity that will result in an increase in bone density. Any weight bearing activity/exercise of sufficient duration was accepted in response to this question. Therefore games such as rugby, football, netball would be credited, as would running, walking, jogging. Some candidates gave names of training methods, where these could involve seated or static exercises they were not accepted as they were considered too vague for credit, other popular incorrect responses were swimming and cycling. Over half the cohort gave a correct response to this question.

## Question 14 (b)

Most candidates correctly identified the elbow or knee in (i) and successfully linked this to an appropriate sporting action in (ii). Some candidates incorrectly identified the joint as the hip or shoulder, these candidates could still gain credit in (ii) if the example action involved flexion and extension. In part (ii) many candidates used examples from traditional sports such as football, tennis, hockey but a surprising number of candidates used 'darts' as their activity, giving the specific situation of 'throwing a dart'. These responses were accurate in terms of the description of the movement thus met the needs of the question and gained credit. Those failing to achieve the mark in (ii) tended to simply name an activity rather than give a specific example, for example, 'football' compared to 'kicking a ball in football'. The vast majority of candidates achieved 2 marks for this question.

(b) (i) The elbow is an example of a hinge joint in the body. (1)

(ii) Give a specific sporting action where this range of movement is used at this joint. (1)

weight lifting when doing bicep curls



**ResultsPlus**

**Examiner Comments**

This answer gained 2 marks. The elbow is clearly identified as the example of a hinge joint where flexion and extension can take place and a specific sporting action that involves flexion and extension is given.

(b) (i) The knee is an example of a hinge joint in the body. (1)

(ii) Give a specific sporting action where this range of movement is used at this joint. (1)

when you are running, your leg bends at the knee and ~~ext~~ extends at the knee.



**ResultsPlus**

**Examiner Comments**

This example also gains 2 marks. This candidate has identified the knee as the hinge joint and running as the action when flexion and extension takes place. To be sure they are clear for the examiner they have also added further clarification of the action. Even though they state 'bend' rather than flexion this is acceptable as they are adding to their response about the sporting action rather than answering a question on joint action.

## Question 15 (a)

The majority of candidates correctly identified the PAR-Q as the questionnaire Mr Rahman's tutor group should complete in order to check they were well enough to take part in physical activity.

## Question 15 (b)

An explanation of the term 'exercise' was required. Candidates who had learnt the glossary definition from the specification gained maximum marks for this question. Most responses identified that exercise was a form of 'physical activity' (reference to 'physical' was a requirement to distinguish from sedentary activities) to improve health and fitness. Whilst reference to health was not essential (as it was stated in the question), fitness was. Alternatively, candidates could state that exercise was 'non-competitive'. Whilst many candidates achieved two marks, incorrect responses relied on examples of exercise (for example, 'exercise is a weights session') rather than relating to the points stated above.

(b) Mr Rahman believes that physical health can be improved through exercise.

Explain the term "exercise".

(2)

Exercise is a physical activity that improves fitness and health



**ResultsPlus**

**Examiner Comments**

This candidate's response is brief but to the point, and gains 2 marks for 'physical activity' and 'improves fitness'.

(b) Mr Rahman believes that physical health can be improved through exercise.

Explain the term "exercise".

(2)

when taking part in physical activity for health reasons. not for competitive reasons.



**ResultsPlus**

**Examiner Comments**

This response also gains 2 marks. No reference is made to improving fitness (no credit given for health as this is included in question). However, in addition to identifying 'physical activity' the candidate also states that this is 'not for competitive reasons', i.e. exercise is non competitive.

### **Question 15 (c)**

This is a four mark question, one mark being awarded for each cell of the table. To gain full marks candidates needed to state when, in a game of table tennis, a performer would use speed and coordination. Having identified a use of each component candidates were then required to state why this use was important within the game. A technical knowledge of table tennis was not required, responses were credited that demonstrated application of knowledge, i.e. why speed and coordination are important to sports performers. Therefore any use of speed that clearly demonstrates speed (fast movement of whole body or fast movement of a body part, in this case the arm/hand) gained credit. For the importance of speed, some candidates made the link between moving your body quickly and therefore getting to where you needed to be quicker giving you more time to play your shot, or making sure you arrived in time to play the shot, whilst others linked the speed of the arm with generating more power, therefore making shots harder to return. The use of coordination in sport is normally associated with being able to time movements to use body parts together to good effect in terms of technique, therefore candidates who identified you use coordination to hit the ball and this is important so you do not miss-hit the ball or can time the shot better would gain both marks. However, two marks were not awarded for a response that stated coordination is used to hit the ball, this is important so you do not miss the ball. The importance needed to link to timing/accuracy/quality of the shot rather than simply repeating the use, this type of response would gain 1 mark.

The majority of candidates achieved 2 marks for this question, but how the 2 marks were achieved varied. The importance of speed and the use of coordination were the most common correct responses, where credit was not gained this tended to be due to lack of clarity of statements, for example, the use of speed 'to hit the ball', as a minimum there needed to be something about the speed of the hit, therefore to move the arm quickly or to hit the ball quickly would have provided required clarity. Occasionally candidates confused speed and reaction time.

(c) Complete the table below by stating:

- when the performer would use speed and coordination
- the importance of each component for performance when playing table tennis

(4)

Component of skill-related fitness	
Speed	<b>Use in game</b> to quickly <del>move</del> <del>back</del> <del>and</del> <del>forth</del> move side to side to return a shot
	<b>Importance</b> so they are able to be in the correct position to return the shot
Coordination	<b>Use in game</b> hand eye coordination with the bat and ball to <del>be</del> be able to hit the ball.
	<b>Importance</b> so they can play a variety of shots and not miss hit the ball



**ResultsPlus**  
Examiner Comments

This response gains the maximum 4 marks. The candidate states the use of each component and why this is important in the game. For speed there is reference to quick movement of the body so they are able to get in position to return the shot. For coordination they have identified its use to hit the ball, this being important so they do not 'miss-hit' the ball.

(c) Complete the table below by stating:

- when the performer would use speed and coordination
- the importance of each component for performance when playing table tennis

(4)

Component of skill-related fitness	
Speed	<p><b>Use in game</b> moving his feet quickly around the shot to return the ball. moving his arm quickly to gain power in his shot.</p>
	<p><b>Importance</b> To return the ball and try to win the point. Also increasing the power of the shot to make it difficult for the opponent to return.</p>
Coordination	<p><b>Use in game</b> moving his body and arm to hit the ball in the middle of the bat.</p>
	<p><b>Importance</b> To make his shot accurate.</p>



**ResultsPlus**  
Examiner Comments

This response also gains maximum marks. The candidate clearly states the use of each component and why this is important in the game. The use of speed is identified for quick movement of the body and arm, either option would be appropriate for credit, however the statement regarding importance is clearer in relation to speed of the arm, therefore this was the aspect credited so the candidate gained both available marks for speed. The statement 'increasing the power of the shot to make it difficult for the opponent to return' very clearly identifies the importance of a 'fast arm'.

For coordination the use of 'hitting the ball' is credited, as is the importance of this, i.e. 'to make his shot accurate'.

## Question 15 (d)

This was a 3 mark 'explain' question. Candidates were asked to explain why a 30-metre sprint test would be an unlikely choice of fitness test for use with table tennis players. As an 'explain' question candidates needed to develop a point or argument rather than make a series of unrelated statements. The expected 'argument' was that as the 30-metre sprint test required you to run as fast as possible in a straight line, testing speed over a distance much longer than that required in table tennis, the test was not specific to table tennis and therefore unlikely to be used. Therefore credit was awarded if the candidate made reference to: a characteristic of the 30-metre sprint test; what the 30-metre sprint test measured; the type of movement in table tennis and therefore the fact that there was a mismatch between the two. Credit was also available for linking the 30-metre sprint test to use with sprinters/games players, or for linking table tennis to other tests such as tests of reaction time/coordination. Not all aspects of this 'argument' needed to be included in a response for maximum marks to be achieved.

Many candidates achieved 2 marks for this question, in most cases describing the type of movement in table tennis and suggesting more relevant tests than the 30-metre sprint test. Less common correct responses explained the nature of the 30-metre sprint test and why this was unsuitable for table tennis. Either approach gained credit.

(d) The 30-metre sprint fitness test is used as a test of speed.

Explain why a table tennis coach is unlikely to use this test to measure his players' speeds.

(3)

He doesn't have to sprint anywhere especially  
30m. He will move around a small table  
& and he won't be sprinting running anywhere



**ResultsPlus**

**Examiner Comments**

This response gained 1 mark for explaining the movement in table tennis. Additional detail about the nature of the 30-metre sprint test to allow a better comparison of the mismatch between the test and table tennis would have allowed more marks to be achieved.



(d) The 30-metre sprint fitness test is used as a test of speed.

Explain why a table tennis coach is unlikely to use this test to measure his players' speeds.

(3)

Because table tennis is not about how quickly you can cover a certain distance. He is more likely to test co-ordination. He could do this by making his players' complete throw and catch test where you have to throw a ball at a wall and catch it using the other hand for 30 seconds without dropping it.



### ResultsPlus Examiner Comments

This answer gained 2 marks. 1 mark for explaining the movement in table tennis, 'TT is not about how quickly you can cover a certain distance', and the second mark for developing the point by saying therefore a more useful test would be of coordination, 'he is more likely to test coordination ...'.

(d) The 30-metre sprint fitness test is used as a test of speed.

Explain why a table tennis coach is unlikely to use this test to measure his players' speeds.

(3)

Because in the 30-metre sprint, that tests your speed in how fast you can cover a certain distance on the floor.

However in table tennis, there test you have to test the speed of your shot to your opponent.



### ResultsPlus Examiner Comments

2 marks were awarded for this explanation. The first mark is for the explanation of the 30-metre sprint test, the second for the comparison to table tennis. A little more detail on a specific table tennis movement or a statement about the non-specific nature of the 30-metre sprint test to table tennis would have provided sufficient evidence for maximum marks.

A 30-metre sprint relies on speed in the legs as well as upper body, while table tennis will rely mainly on speed in the upper body and not so much the legs. Reaction time would be an important factor in assessing speed for table tennis - the ruler drop test could be used instead. Either way, someone who is fast at running may not necessarily be overall fast with reactions or <sup>have</sup> good coordination.



## ResultsPlus

Examiner Comments

This example gains 3 marks. In terms of the expected 'argument', there is a comparison of the characteristics of the 30m sprint test and movement in table tennis, and therefore the value of this test in relation to table tennis before suggesting a better, more relevant, test for table tennis.

The candidate begins by explaining something about the 30-metre sprint test, 'speed in the legs' and compares this to table tennis 'unlike table tennis ... speed in the upper body', finishing by explaining that therefore 'reaction time would be important factor in assessing speed in table tennis'. The response is given a summary statement identifying that just because you are fast at running doesn't mean you will have fast reactions/good coordination for table tennis.

The 30-metre sprint fitness test is a test used to measure the speed of your legs, rather than your hands. A good table-tennis player would need quick hand speed to return a ball to their opponent. The hand speed for a ~~table tennis~~ <sup>table tennis player</sup> must be very quick, perhaps the ruler drop test would be better because the reactions are more important for the hands.



## ResultsPlus

Examiner Comments

This response gains 3 marks. There is a clear logical progression through the explanation. Initially the candidate explains what the 30-metre sprint test is used for and compares this to the needs of table tennis before finally suggesting a more suitable test that would measure the table tennis requirements they had already discussed.

## **Question 16**

This is the extended answer question on the paper. It uses a levels based mark scheme to make a judgement on the 'level of response' rather than a point for point mark scheme which is used for the other questions. This means that a candidate could write a lot of correct 'facts', relevant to the question but this alone would not guarantee a high level of response. The different levels reflect the quality of the candidate response, this particular question asked candidates to discuss the relative importance of agility and reaction time to two different types of performers, a badminton player and a 400m runner. A Level 3 response gaining 5 or 6 marks would need to show developed discussion points about the importance of these aspects of fitness, for example, whilst a Level 1 response (1 or 2 marks) might identify that reaction time was important to a sprinter to get a good start a Level 3 response would develop the point further, possibly by saying that as a sprint event is so short any lost time due to a poor start could never be made up therefore putting the performer at a disadvantage at the start of the race. A Level 2 response would also include developed discussion points but would not cover as many aspects of the question as a Level 3 response. For example, they may only present a developed discussion in relation to badminton or reaction time in relation to both performers. Candidates achieving Levels 2 and 3 show linkage in the points they are making, this might be in the form of a reasoned consequence of good or bad reaction time/agility to performance.

\*16 Discuss the **relative** importance of **agility** and **reaction time** for performers competing in the **types** of activity shown in **Figure 7**.

- B players need <sup>more</sup> agility to ~~not~~ hit shuttlecock when opponent hits it away from player ~~more~~ because
- B players need <sup>more</sup> reaction time because fast-paced at times

400m need agility to run around the curve of the track while maintaining speed. Need reaction-time so when gun starts get a good start.



Badminton players



400m runner

Figure 7

Candidates are not expected to use all the space provided.

Badminton players need agility. Agility is the ability to change direction when moving quickly. Reaction-time is the time it takes to respond to stimulus. Badminton players need agility more than reaction time because in badminton the objective of the game is to hit the shuttlecock away from your opponent so that they are not able to hit it back. This means during fast-paced moments you have to change direction quickly to reach the shuttlecock and hit it back. Badminton <sup>players</sup> do not need reaction-time as much as agility, but <sup>they</sup> still need it <sup>at some point</sup>. This is because when the shuttlecock is hit back if you take a

long while to respond ~~to~~ and you will not make it to where it is and the shuttlecock will land on the floor giving your opponent a point.

400 m runners do not need agility as much as reaction time because they are staying in one lane throughout the event. This means there is no significant change in direction. Lastly 400m runners need reaction time more than agility because when they are at the starting line you need to react quickly to the gun sound to get a good start. This could put <sup>see them</sup> in front of ~~other~~ their competitors. opponents.



## ResultsPlus

### Examiner Comments

This is a Level 3 response which scores 6 marks. The candidate has made a number of developed statements and some simple statements addressing all aspects of the question.

The 'simple statements' occur at the beginning of the response where definitions of the components of fitness are given. This is a useful technique as it allows the candidate to constantly refer back to them to help with their application in the rest of the response.

Developed statements or discussion points are made throughout the rest of the answer. Each point is linked to another point, for example, 'Badminton players need agility more than reaction time **because** the objective is to hit the shuttle away from ...' **This means that ...'**

Similarly in the following discussion points, 'Badminton players need reaction time but not as much as agility **because** take too long, will not reach **giving** opponent a point.'

'400m runners don't need agility as much as reaction time **because** staying in lane ... **this means that ...'** '400m runners need reaction time more than agility **because** need to react quickly to gun going off to get a good start. **This could** put them ...'



## ResultsPlus

### Examiner Tip

For the extended answer questions you need to show that you can develop a point, make reasoned arguments to show your depth of understanding so try to make sure you extend the points you make - have you linked comments? One way to check is to look for linking words or phrases, for example, 'because', 'therefore', 'this means that', 'without this ...'



\*16 Discuss the **relative** importance of agility and reaction time for performers competing in the **types** of activity shown in **Figure 7**.

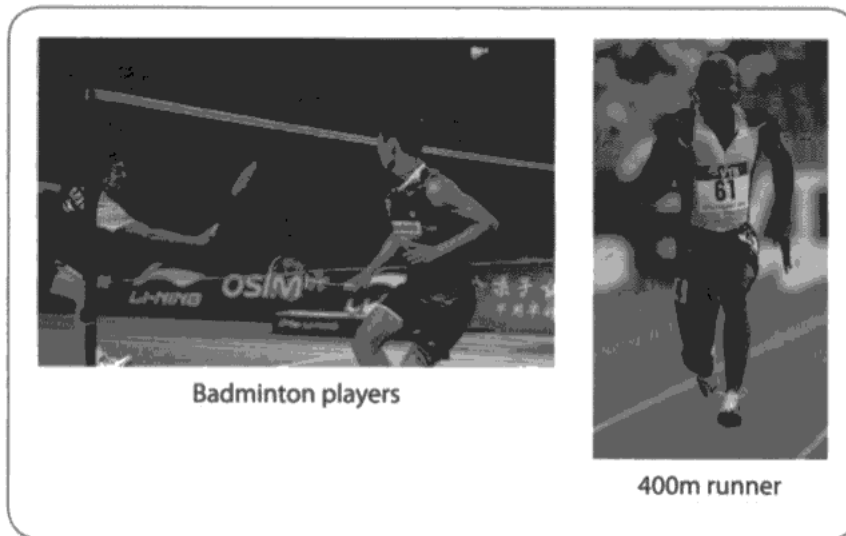


Figure 7

Candidates are not expected to use all the space provided.

Agility is a key ingredient in all sports but in Badminton it is a must-have, this is because they need to move quickly in different directions in order to hit the shuttlecock and protect the point or even hit a winner.

Agility is also needed in 400m runners, this is because they need to be running round the track at quick paces. The turns into the track make it difficult to run as fast as you can. It is vital in a 400m runner because a participant of this sport will

need to ~~have~~ be able to run in a straight line, then turn round a corner at fast pace and then back into a straight line again.

Reaction times are also key in Badminton because it allows them to make quick decisions and again protect the point or if not win it.

Reaction times are also needed in 400m because they need to know when they are going to start or not. Because the runners are looking forwards and focused on running and staying in their lanes they can't afford to look at the starter, this means quick reaction times will allow them to start as quick as they can but legally.



## ResultsPlus

### Examiner Comments

This is a good example of a Level 2 response which scores 4 marks.

The candidate has included two developed discussion points and made some simple, straight-forward unlinked points to cover the required range of the question.

The first paragraph discusses the relative importance of agility to a badminton player 'Agility is key in all aspects but in Badminton it is a 'must-have' **because** need to move quickly in different directions on court. This is considered to be a developed discussion point as the reason agility is important is stated. NB. The given example of 'hit the shuttlecock and protect point ...' would not have been a clear enough example of the use of agility but in this case the candidate had already made the developed point.

The second developed discussion point is made in the second paragraph. Whilst the first statement is linked to speed it is relevant as the candidate goes on to explain that this is difficult without agility due to turns in the track. They follow this (last line) by stating 'it is vital in 400m to ... turn round a corner at fast pace and then straight again'. The candidate has identified the 'vital' importance. Agility is needed because the runner needs to be fast but turns make it difficult therefore vital because we need to run straight then turn at fast pace and then straight again.

Other relevant points made include the statement in the third paragraph - 'Reaction time is key in badminton because it allows quick decisions although this was not developed further by giving an example of what is meant by this, such as needed due to the fast pace of the game, or needed if the shuttle is hit with disguise.

Finally, in the fourth paragraph, the candidate states that 'Reaction time is needed in 400m to get a good start'. In order to be considered 'developed' the consequences in terms of 'time' should have been considered, e.g. such a short race therefore limited time to catch up on a poor start.

The response discusses the importance of both components of fitness to both types of performers and includes definition/description of the terms therefore providing the required range in the response for maximum marks at this level.

\*16 Discuss the **relative** importance of agility and reaction time for performers competing in the **types** of activity shown in **Figure 7**.

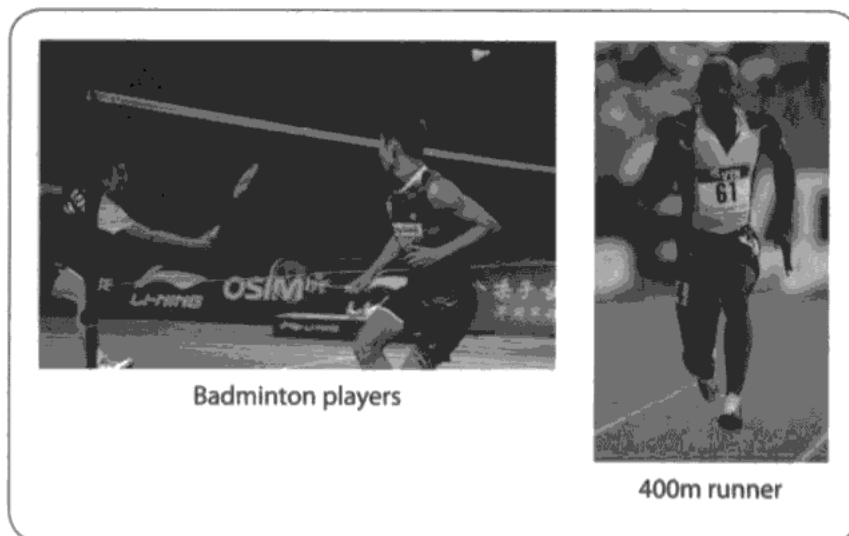


Figure 7

Candidates are not expected to use all the space provided.

Agility and reaction time are both required in badminton and athletics. In badminton agility is used to run around in to different positions quickly in order to hit the shuttle cock. However, power is also needed in this activity in order to hit the shuttle cock hard and far so you can gain points. ~~reaction~~ In athletics agility is used to ~~run~~ move/run around the bends of the track, however there are also other important factors such as speed and power within this activity to run faster towards the end of the race and start of the race with power to get a good head start.

Reaction time is also used within these two activities. In badminton you need good reaction time in order to serve at hit the ball, In 400m running reaction time is needed at the start of



the race in order to get a good head start. In ~~badminton~~ badminton agility is more important than in athletic 400m running. However, in 400m running reaction time is more important than in badminton because it is important to get a good head start.

To conclude, agility and reaction time for performers competing in badminton and 400m running is important, but there are other factors which may be more important than these ones such as power and speed.



**ResultsPlus**

**Examiner Comments**

This is another good example of a Level 2 response, scoring 4 marks. To achieve Level 3 the candidate needed to include at least one more discussion point in relation to one of the components of fitness.

The developed discussion points included in this answer are as follows:

The discussion of the relative importance of agility, not by comparing agility to reaction time but by considering the value of agility against other components of fitness - this is a valid approach. 'In athletics agility is used to run around the bends of the track, **however** there are also other important factors such as speed and power within this activity to ...'.

The conclusion provides a good summary of the points made by the candidate, making a developed discussion point: 'agility and reaction time are important to both activities **but** there are other factors which may be more important than these **such as** power and speed.' NB This is considered a developed discussion point as it is a conclusion, backing up previous points made, without the existence of the previous points more detail would be required, for example an example of the use of power and speed.

Several simple points were made that were relevant but not linked - had the response comprised only these types of statements then it would have been credited at Level 1.

Examples of these points include: 'In badminton agility is used to run around in to different positions quickly' (reference to 'different' just sufficient to imply change of direction); 'Reaction time in 400m to get a good start'.

At the top of page 2 the relative importance of agility in badminton compared to athletics is identified but not discussed, similarly with reaction time.

\*16 Discuss the **relative** importance of agility and reaction time for performers competing in the **types** of activity shown in **Figure 7**.

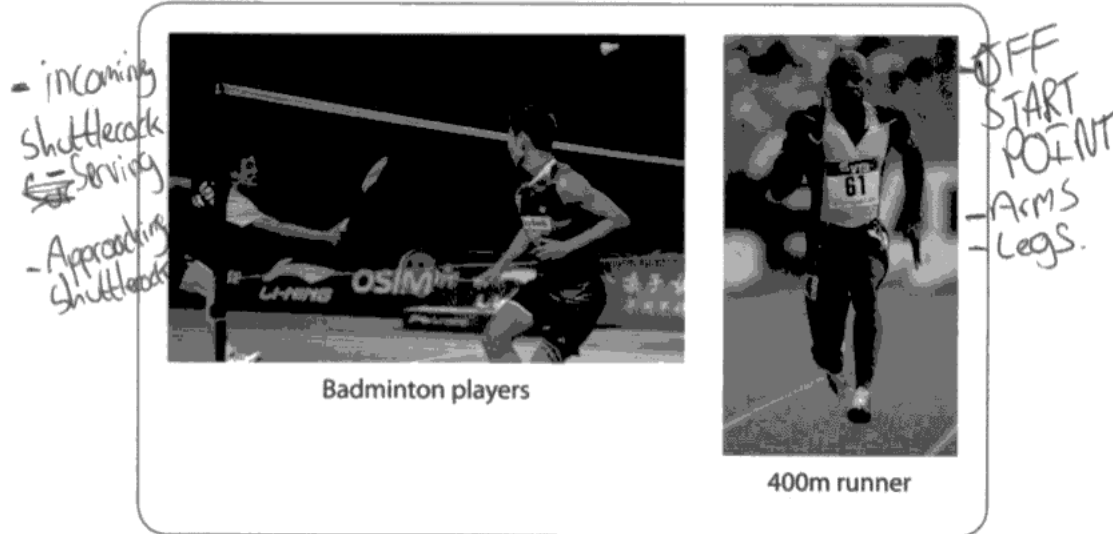


Figure 7

Candidates are not expected to use all the space provided.

Both activities shown in Figure 7 use both agility and reaction time.

With a 400 m runner At the start point they need high concentration and be highly reactive to the gun shot that allows them to start. Reacting too slowly can ruin chances of finishing in good positions. Its one of the main parts of a race so reactions are key in running.

Reaction time is more common in Badminton due to incoming shuttlecocks that must be returned. Other skills are involved ~~but~~ but having bad reactions loses you points. Reaction time has to constantly be high for max potential. Agility in Badminton is needed to reach the shuttlecock in awkward situations are the ability to change direction to return the shuttlecock. Agility levels have to be high for serving with the jumping and arm movement.

A runner needs agility in arms and legs for wider strides to move quicker and more movement in the arms gives them a better momentum. Agility is vital in running.



### ResultsPlus Examiner Comments

This is an example of a Level 1 response which scored 2 marks. There is a developed discussion point on the first page of the answer in relation to the importance of reaction time and the 400m sprinter: 'react to the gun shot that allows them to start. Reacting too slowly can ruin chances of finishing in a good position'. Other points are made but these are not developed, for example, agility being needed in badminton to reach the shuttlecock in 'awkward situations where a change of direction was necessary'.

The statement regarding reaction time use in badminton does not gain credit as no clear point is made. Reference to 'incoming shuttles' could have been elaborated on, for example, by identifying the fast speed of the 'incoming shuttles' would have better indicated a need for reaction time.

## Question 17

This is the second extended answer question on the paper. As with Question 16, this too utilises a levels based mark scheme, therefore developed discussion points are required to progress through the levels. Indicative content is shown in the mark scheme, this covers the typical responses that candidates may pursue, but this is not an exhaustive list, with levels based mark schemes alternate valid responses can still achieve full credit provided points relate to the question and show development. As with question 16 a full range of responses were seen, despite the topic of this question being slightly less accessible than that in question 16 percentages of candidates achieving the different levels were similar. The extended answer questions are designed to allow differentiation between candidates therefore it is expected that the majority of candidates would achieve some marks, but that the number of candidates achieving 3 or more marks would taper, as was the case. Body type characteristics appeared to be well known therefore simple points could be made for credit, such as mesomorphs are muscular, or ectomorphs are tall and slim. Where candidates focused on a characteristic and discussed this in relation to the long distance event they invariably made developed discussion points. For example, a popular correct response was that mesomorphs were muscular, as muscle weighs more than fat this meant that mesomorphs were heavy compared to ectomorph therefore they would have slower running times over long distances. Ectomorphs were often described as the most suitable body type due to being tall meaning longer strides to cover the ground more quickly.

**\*17** Extreme body types (somatypes) are classified as endomorph, mesomorph or ectomorph.

Discuss whether an extreme mesomorph would be the ideal body type for endurance activities such as long distance running.

**Candidates are not expected to use all the space provided.**

An extreme mesomorph would not be the ideal body type for ~~an~~ long distance runner because they wouldn't have big long strides which would make them quicker. They also have a lot of muscle on their body and this would make them heavy and so it would be hard to run for a long amount time as ~~the~~ the weight would slow you down. Also ~~mesomorphs~~ mesomorphs have good muscular strength and endurance, this would be helpful but ~~on having~~ having good cardiovascular system would be the best for running a long amount of time. ~~The~~ The best type of ~~the~~ somatype for long distance running would be an ectomorph because they are tall and thin

so have long strides and are light so this would make it easier to run. A ~~ectomorph~~ mesomorph is best suited to weightlifting and sports like rugby because of their muscular strength.



## ResultsPlus

Examiner Comments

This is an example of a Level 3, 6 mark response.

The candidate provides several developed discussion points and meets the requirements of the question in terms of range, i.e. there is discussion of the characteristics of the mesomorph body type and how this would, or would not, help in the performance of a long distance running event.

For example, reference is made to the amount of muscle a mesomorph has **making** them heavier, **therefore** harder to run for a long amount of time due to the weight slowing them down. There is subsequent discussion comparing this body type to the ectomorph, the characteristics of tall and thin are identified as an advantage and the advantage explained in terms of longer strides and being light making it easier to run.

The final developed discussion point is at the end of the response, where a link is made between the mesomorphs muscular strength (due to additional muscle mass) and other activities they would be better suited to.

There are also a number of 'simple' points made, for example, the mesomorph will not have long strides to make them quicker - subsequently this point is linked to the ectomorph characteristic of 'tallness' thus is considered to be a developed discussion point.

\*17 Extreme body types (somatypes) are classified as endomorph, mesomorph or ectomorph.

Discuss whether an extreme mesomorph would be the ideal body type for endurance activities such as long distance running.

Candidates are not expected to use all the space provided.

Someone who is considered to be at an extreme mesomorph would not be so good for a long distance run because due to them being quite big built it would not suit them because also it would be harder for them to run for a longer period of time due to the amount of weight that they weigh. However, he may be good at it but will be a lot harder than it would be for an ectomorph where by there so light it would suit them better.



### ResultsPlus Examiner Comments

This is an example of a Level 1 response which scores 1 mark. The candidate makes several points, but the points lack clarity and development. For example, reference to mesomorphs as 'big built' would not be credited as an alternative to 'muscular', one could describe endomorphs as big built. However, as a simple statement the recognition that mesomorphs are heavier therefore it is harder to run would be considered a valid point - it needed reference to muscle to become developed. Similarly, a valid point is made when stating that ectomorphs would be more suited as light, but again the point is not developed for further credit.



\*17 Extreme body types (somatypes) are classified as endomorph, mesomorph or ectomorph.

Discuss whether an extreme mesomorph would be the ideal body type for endurance activities such as long distance running.

**Candidates are not expected to use all the space provided.**

The Somatype mesomorph has a high muscular build so in some aspects would be good for endurance activities but not ideal as this would be ectomorph as there is long legs will help with distance as they have longer strides. Also the lower body mass would help with the weight as they would carry less weight making it easier to run further rather than mesomorph where there is alot of weight to carry. The ideal Somata type would be ectomorph and not ~~mesomorph~~ mesomorph as the ectomorph build is better suited to endurance activities than mesomorph.



**ResultsPlus**

**Examiner Comments**

This is an example of a Level 2 response which scores 4 marks. The candidate makes two developed discussion points, both in relation to the ectomorph, and some simple points in relation to the mesomorph.

Mesomorphs are identified as having 'high musculature'

Ectomorphs are described as being ideal (rather than mesomorphs) for long distance running. This point of view is then discussed, evidence for this is provided through reference to longer stride lengths covering more distance and less weight making the run easier.



Somatotypes are extreme body types and include mesomorphs, ectomorphs and endomorphs. A mesomorph is a powerful and muscular person with large shoulders and narrow hips. ~~A mesomorph~~ An ectomorph is a tall person generally with narrow hips and narrow shoulders. An endomorph is generally overfat with narrow shoulders and large hips and may compete in strength activities such as sumo wrestling.

Mesomorphs are more powerful because of their muscle and strength so may compete in events such as the 100m. ~~The~~ The muscle would be heavy and therefore would be a lot of body weight to carry for an endurance event. If you are running for a long period of time <sup>a great</sup> speed is not necessary as it would not be possible to keep it up for the long time ~~of~~ or distance. This means that they would not be ideal for the long distance event.

~~As~~ Overall, ectomorphs would be more suited to the event as they do not have as much weight to carry and they are generally taller meaning that more distance is travelled in fewer strides so they do not tire as easily.



**ResultsPlus**

Examiner Comments

This is a Level 3, 6 mark response. The first paragraph identifies each body type and gives a characteristic of this body type. Lots of information has been given, but as of yet no developed discussion points are provided. Had this been the candidate's total response this would have been credited at Level 1.

However, subsequent paragraphs do contain developed discussion points; for example, in paragraph 2 reference is made to mesomorphs being more powerful **because** of their muscular body **so** making them suitable for events such as the 100m. The point is continued, discussing that the muscle causes additional weight which would make it difficult to maintain running for the time needed in an endurance event.

The final paragraph concludes that ectomorphs would be better suited **as** they do not have this extra weight that they are generally taller **meaning** that more distance is travelled in fewer strides.

## Paper Summary

Based on their performance on this paper, candidates are offered the following advice:

- Read all questions carefully to ensure the instructions are followed (e.g. Describe one way in which...)
- Identify key words in a question, sometimes these are in bold to draw attention to them but this will not always be the case
- Make examples as clear as possible so the examiner can picture the example being given
- Pay attention to the command words used in the question and the mark allocation - describe, explain, discuss will need more detailed responses and will be allocated more marks
- When answering the extended answer question (6 mark question) make sure points are linked to demonstrate the development of an argument.

## **Grade Boundaries**

Grade boundaries for this, and all other papers, can be found on the website on this link:

<http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx>



Ofqual



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government



Pearson Education Limited. Registered company number 872828  
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE