

SPORT SCIENCE

Moderators' report

INCLUDED ON THE
KS4 PERFORMANCE TABLES

OCR Level 1/Level 2

Cambridge National in
Sport Science

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R181-R183 Summer 2023 series

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Our moderators' reports are produced to offer constructive feedback on candidates' performance in the examinations. They provide useful guidance for future candidates.

The reports will include a general commentary on candidates' performance, identify technical aspects examined in the questions and highlight good performance and where performance could be improved. The reports will also explain aspects which caused difficulty and why the difficulties arose, whether through a lack of knowledge, poor examination technique, or any other identifiable and explainable reason.

Where overall performance on a question/question part was considered good, with no particular areas to highlight, these questions have not been included in the report.

Please note, the content for this report is based on candidate work submitted in the June 2023 series and does not include work from the extraordinary autumn submission opportunity. It is possible that not all units are covered within the report, however candidate style work is available for all internally-assessed units on Teach Cambridge and candidate exemplars from the 2023 series will be available from the autumn.

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Unit R181 General overview

It is important that in Task 3 the information is applied to the focus in the live assignment and not just repeated general theory on the principles of training and different training methods.

The fitness training programme needs to be undertaken and data on progress collected. Only OCR templates for the Risk Assessment and Teacher Observation Record should be used.

Comments by task

Task 1 – Components of fitness applied in sport

Tests for all components of fitness need to be undertaken and full protocols for all of them should be included.

Once the results have been collated, with the correct units used, the data needs to be analysed against normative data tables to interpret them.

It is advised that candidates complete tests for all 10 fitness components and apply them to examples from both their chosen sports.

The validity and reliability of each test in relation to their two sports should be discussed when commenting on what it means to their fitness for the activities.

Task 2 – Components of fitness applied in sport

For higher mark bands candidates need to include a range of skills from both their selected sports linked to all components of fitness.

It is strongly advised that skills from **both** selected sports are linked to all 10 fitness components.

While it is not something that has to be completed it is advisable that, similar to the exemplar work, a Teacher Observation Record is completed as supporting evidence that the candidates have undertaken the tests and demonstrated the skills relevant to the components of fitness.

Candidates must devise **two** skill based fitness tests in **one** of their selected sports.

The tests should be linked to the information they have gathered on which fitness components are linked to different skills in their selected sports. They are not either just a repeat of the standard fitness tests or just practising a skill. The test must name the skill **and** state which component of fitness it is measuring.

They need to include protocols that would enable someone else to undertake the tests and then undertake the tests and collect the results.

A table of normative data does not need to be created but how effective the test is in measuring the desired component of fitness needs to be discussed, to check the test is valid and reliable. For instance, this can be done by getting someone else to do the test, compare it with the results from the standard tests in Task 1 or by including it as the pre, mid and post test used in Task 4 and then evaluate the effectiveness of the test.

Task 3 – Apply principles of training in sport

This task is applying the information of training principles, training methods and their benefits to the profile of the person in the assignment which in this case was Eve.

SPOR, FITT and SMART and the benefits of applying them must be applied to Eve's programme and not just generally discussed.

To demonstrate a higher level of knowledge, it is advised that all training methods, including comparison of anaerobic and aerobic activity, are discussed in terms of their relevance to Eve.

All content should be applied to Eve and not generally discussed.

The candidate may start to apply the principles and appropriate training methods themselves so they can begin to do Task 4 and produce their own plan but they must apply it all to Eve first.

Task 4 – Organising and planning a fitness training programme

All the theory from previous tasks should be applied to the candidate for them to produce a 6 week fitness training programme.

The knowledge gained from previous tasks should be used to help select appropriate training methods and apply appropriate principles of training and SMART goal setting.

A clear goal must then be stated and the programme, which only has to work on one component of fitness that they have linked to improving skill performance in Task 2, must be targeted to that improvement, i.e. if the goal is to improve strength, undertaking a programme that is continuous training will not do this and so not appropriate.

They can use the skill based fitness tests devised in Task 2 to monitor progress.

Warm ups, cool downs and safety practice must be included in the programme.

The OCR provided template must be used for the Risk Assessment which should be appropriate to their fitness training programme and not general.

The 6 week training programme devised **must be** undertaken and data collected to enable Task 5 to be completed.

Task 5 – Review own performance in planning and delivery of a fitness training programme

In the review, candidates need to compare the pre and post test results in terms of whether the goals were met and describe the strengths and weaknesses of the fitness training programme and not just describe the drills and say what happened.

They should also discuss any adaptations made to the training programme and then how they would improve the process for future sessions.

Unit R182 General overview

Only work applied to the assignment needs to be included.

Labelled pictures of hearts, skeletons and other theory that needs to be taught, is not asked for by the assignment so should not be included.

The relevant activities for the assignment and examples should be referred to in the appropriate tasks as per the table below.

For this Scenario select from the following Training and Sport Activities, in the table below:

Training Activities Relevant to Activities 1 and 3	Sports Activity Relevant to Tasks 1, 2 and 3
<p>Select a 15 minute continuous aerobic training activity, examples below:</p> <ul style="list-style-type: none"> • steady state running exercise of their choice • 15 minutes on a treadmill • 15 minutes on exercise bike • basic body weight circuit training session – (1 minute's repetitions of – press ups, lunges, tricep dips, squats, star jumps, sit ups, crunches, alternate leg and arm raisers). 	<p>Select a sports activity from the list below:</p> <ul style="list-style-type: none"> • athletics – throws • handball • ice hockey.

Comments by task

Task 1 – Short-term effects of exercise on the cardio-respiratory and musculo-skeletal systems

It is important to note that information from Topic Areas, 1, 2 and 3 are needed to fully answer this task and work should be applied to both the Training Activities and one of the Sports Activities provided.

As per the scenario above, data needs to be collected during an appropriate form of exercise listed which in this case was a form of 15 minute continuous aerobic training activity.

A variety of different data should be collected for all systems over the duration of the activity and linked to various intensities of the exercise.

All short term effects of the systems need to be applied to examples in their chosen sport from the ones provided.

Each short term effect listed in Topic Area 3 should be linked to how it affects a performer undertaking the activity that has been chosen by the candidate.

All changes have to be applied to examples from the sport and not just generally discussed.

Task 2 – Long-term effects of exercise on the cardio-respiratory and musculo-skeletal systems

It is important to note that information from Topic Areas, 1, 2 and 4 are needed to fully answer this task and work should be applied to one of the Sports Activities provided.

All long term effects of the systems need to be applied to examples in their chosen sport from the ones provided.

Each long term effect listed in Topic Area 4 should be linked to how it affects a performer undertaking the activity that has been chosen to by the candidate.

The adaptations have to be applied to examples from the sport and not just generally discussed.

Task 3 – Technology and the cardio-respiratory and musculo-skeletal systems

It is important to note that information from Topic Areas, 1 and 2 are needed to fully answer this task and work should be applied to both the Training Activities and one of the Sports Activities provided.

Wearable, laboratory based and field based technology for all systems should be discussed, alongside the information it provides both the performer and coach, and the benefits and drawbacks of each applied to both beginners and experts in the sport they have chosen from those provided.

Technology for both the cardio-respiratory and musculo-skeletal systems has to be discussed in terms of the information they provide.

Unit R183 General overview

All tasks in the assignment need to be linked to the personal profile and sport of the person who is the focus of the live assignment.

All tasks should reference this information and not just include lots of general information that is not applied.

In order to complete this task, you will need to consider the sporting activity that Jamal regularly participates in. You also need to consider how his nutritional requirements may alter/be different before, during and after exercise in order to develop a personalised and balanced nutrition plan for Jamal.

Jamal's Client profile:

Name	Jamal Avery
Gender	Boy
Age Range	16–18
Height	5ft 8 inch (172 cm)
Weight	10st 7lbs (68.3kg)
Sporting Activity experience	<p>Active – Between 60 and 150 minutes a week – A young boxer who competes for his local boxing club. He is trying to increase his muscle mass to be stronger within his weight class.</p> <p>His preferred training schedule includes elements of:</p> <ul style="list-style-type: none"> • Aerobic activity – continuous training (running) – 40 minutes. • Anaerobic activity – interval training – 6–12 rounds of sparring for 3 minutes with 30–60 seconds rest. • Strength-based activity – circuit training – including press ups, lunges, shadow boxing, skipping, deadlift, medicine ball throws.
Aim of the nutrition plan?	To improve energy levels for training and increase strength.

Comments by task

Task 1 – The nutrients needed for a healthy, balanced nutrition plan

Candidates must apply all the nutrients to the person's profile and sport provided in the assignment and not just write everything they know about the generic requirements of a healthy, balanced nutrition plan.

In this instance all the work should be applied to Jamal who is a boxer that wants to improve energy levels and strength, and thus the requirements he needs to do this.

It is not a requirement just to repeat teaching notes but to apply them to Jamal and his profile.

Candidates should be more specific in their examples of each nutrient and provide a wider range of examples than just the generic sources of each.

Task 2 – Identify the dietary requirements of various sporting activities

Candidates must apply the dietary requirements before, during and after the different sporting activities of varying intensities.

As in Task 1, the information has to be applied to Jamal's aerobic activity (40 minutes of continuous training), anaerobic activity (6-12 rounds of sparring) and strength activity (circuit training) and not generally discussed for any versions of the different intensities.

All advice should be relevant to before, during and after these specific activities and not discussed generally.

When discussing what types of food would be ideal **and** which should be limited for each particular type of activity, work should also state whether these foods would be most effective or most detrimental, before, during or after exercise.

Task 3 – Develop a balanced nutrition plan for a sporting activity

Original diet plan

It is a requirement of the task that the original plan is included in the work. This makes it easier for the candidates to check their changes against it and highlight where they have made alterations.

A 2 week adapted nutrition plan that meets the goals of the performer needs to be produced. This should not consist of a one-week nutrition plan being repeated.

Candidates should use the information gathered in Tasks 1 and 2, considering what foods each activity requires and apply it to improving the nutrition plan.

There is no need to create an interview with the person whose profile they are using, in this case Jamal, but use the profile and goals within it to discuss whether the adaptations suggested will meet their goals or if other adaptations should occur to meet them.

To justify their alterations candidates could add content such as:

- what they would expect to happen if the performer follows the plan
- when they would expect changes to occur
- how might the nutrition plan change as training needs change as the performer progresses; this could be linked to goals, energy intake or portion sizes
- how the plan might be adapted for nutritional requirements, e.g. a dairy allergy, veganism or just individual preferences
- the focus of the training may change after so many months and this may change the goals/focus of the nutrition plan.

Task 4 – How nutritional behaviours can be managed to improve sports performance

Candidates need to discuss the effects of over-eating, under-eating and dehydration on the person's sport, which in this case is boxing, which means the detrimental effects **and** how each can be positively managed by the performer.

Again, this should all be applied to how each affects boxing and not lots of general information about each area.

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