



## **General Certificate of Education**

### **Applied Science**

**8771/8773/8776/8777/8779**

**SC09      Sports Science**

## **Report on the Examination**

*2010 examination - June series*

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## General Comments

The number of candidates entered has again increased this year *for many units* and many centres have continued to guide candidates to achieve well. The award has generated much high quality work from centres. Credit should be given to both teachers and candidates in making every effort to meet the requirements of the award, producing portfolios, many of which demonstrated a commendable standard of content, approach and presentation. The centre accreditation scheme currently numbers 94 centres at AS and 26 centres at A2 level and random sampling of these centres has again confirmed the value of the process – with centre marking being confirmed as in line with AQA standards in the vast majority of cases, but with a small number showing some “slippage” with marks going out of tolerance leading to loss of accreditation.

## Portfolio issues

Portfolio construction remains a concern for some candidates, and it is evident that better centre guidance is required in some cases. However, it is very important that centres provide the opportunity for candidates to demonstrate flair and individuality. It is easier for moderation if portfolio structure matches the structure of the unit. Centres are also advised to monitor portfolios during production to identify “cut and paste” styles of working early and to ensure approaches are appropriate. Some centres correctly down-marked candidates’ final portfolio marks due to inappropriately including cut and paste or copied work – but early identification and correction of such work could have avoided these final mark reductions. Other centres missed the inclusion of un-reworded downloads and these were dealt with appropriately by moderators, with most instances resulting in portfolio marks falling out of tolerance, a situation which unfortunately affects the entire entry for that unit. It is essential that these situations are dealt with at centre level before submission of marks in order that all candidates are treated fairly.

Some candidates continue to produce unreasonably large portfolios and it is rare for such portfolios not to include irrelevant material or be repetitive or, indeed, to have omitted some areas that would benefit from additional time and consideration.

For some units, it appears that the levels of expectation of the quality of portfolio content and/or the outcomes that candidates are allowed to produce are set too low. A number of centres are still judged to have marked candidates work too generously and where this was the case, marks were reduced and fell out of tolerance.

Some of the causes of over-generous marking included:

- Misinterpretation of the requirements of unit
- Too much work on non-essential areas and/or too little on required aspects
- Failure to fully complete fundamental aspects of the unit as required in the “Banner”
- Over-lenient interpretation of the assessment grids
- Failure to appreciate that high scores are likely to equate to “A” grade which means very good work in all areas of a unit – marks allocated to students should be matched to the track record and overall ability of students to ensure they are justified. Weak students gaining uncharacteristically high grades could indicate lenient marking.
- Lack of rigour in marking/assessment of work – incorrect science accepted, incorrect calculations marked as correct, incorrect statements accepted, praise for work which is of poor quality, marks allocated for work for which there is no evidence – or no supporting teacher comment (# in the assessment grids).

- The inclusion of materials directly down-loaded from the internet – such work should be awarded NO MARKS as original student work.
- Weak candidate skills in practical activities leading to a lack of precision and unreliability as evidenced in results, but high marks awarded.
- A lack of description by the centre assessor of each candidate's level of practical skills, their awareness of safety procedures and degree of autonomy (marked # in the assessment grids) and resulting inconsistencies between the marks awarded and the portfolio evidence.
- Many units require the use of risk assessments, and whilst many candidates include these, centre assessors are frequently over-generous in their allocation of marks in this area. The following are examples of where candidates are insufficiently accurate or specific and where marking is lenient.
  - Where solutions are used, the concentration is important and this can significantly affect the hazard and subsequent risk factors.
  - Where compounds or solutions are used, it is inappropriate simply to refer to and use the elemental form of the cation component of a compound – sodium has quite a different hazard rating to sodium chloride!
  - Common sense and an understanding of science should be applied when judging risk. Candidates should consider what are the real and sensible hazards and risks and then relate these to the actual compounds used at the concentrations involved as appropriate.

2010 was the first year for Quality of Written Communication (QWC) to feature in all portfolio units. The criteria appear in AO1 of Sc01 and AO3(ii) for all other units. Whilst appearing in particular assessment objectives, the intention is for the QWC statements to be applied across the entire portfolio. As explained at teacher standardising meetings, the intention was that QWC would consist of a cluster of criteria within each mark band and would generally be in line with other criteria at the level in question. As such there would be little change to existing standards. This has proved to be the case and only in a minority of instances did marks move up or down due to QWC alone. It was generally clear that centres had taken into consideration the QWC elements in their assessments. Unfortunately a minority of centres have continued to use the older criteria where QWC statements are not included and all centres are advised that they should be using the correct assessment grids.

Centres are reminded that many issues and points of guidance made in the 2008 and 2009 examination reports are still valid and these remain valuable sources of information.

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**SC09**

Very good work was produced from candidates who were actively involved in sports and showed they really understood what they were doing.

- In most cases an individual and a sport were clearly identified – a requirement for all mark bands in AO1.
- A sensible 4-week programme of activities was devised that clearly targeted the areas identified for improvement in performance in the chosen sport. This is a key area and aspects of this feature in all Assessment Objectives and all mark bands.
- Candidates provided sensible accounts of dietary requirements in relation to the chosen sport and training programme. It was clear that the candidate saw the link between the needs of the chosen activities and an appropriate diet, allowing access to aspects of AO2 and AO3(ii).
- Appropriate measurements of bodily physical features or capabilities were taken at the outset of the programme, using accepted standard measures of fitness with sufficient accuracy and precision to produce values which were reliable. At the end of the programme the same measurements were repeated to enable progress to be determined and appropriate calculations used to determine this - providing access to marks in AO2, AO3(i) and AO3(ii).
- Some monitoring of progress through the 4 week programme was evident: some produced a log of activities, others took interim measurements using the same tests throughout the programme. Clear evidence of monitoring can allow access to some marks in AO3(ii) from mark bands 3 or 4.
- This year, some candidates made judgements of the capabilities of the chosen individual in the selected sport at the start and end of the programme, in addition to the measurements of physical capability. However a significant number of candidates mentioned a particular sport at the outset and then subsequently it received no further mention. This is what the programme was meant to be for! Its omission can limit marks in AO3(ii) when considering the effectiveness of the programme.
- High scoring candidates included background science at a high level, linked to human performance and linked this to the chosen sport and training programme. Where this is well done, high marks in AO1, AO2 and AO3(i) are more easily justified.
- The effect of drugs on performance was included by the majority but not all candidates.
- A sports injury and an occupation involving science and sport were covered by many candidates, often very well. The best examples included an actual injury, reported from “real life”, and considered an injury sustained by themselves, a close friend or family member where the candidate can talk from real experience - supplemented by research – and provide an account which shows high levels of understanding. Such good quality work allows access to high marks in AO1.
- Work on first aid was specifically related to the sports injury chosen, and when supported by good background science this work can contribute to high marks in AO2.

The following were areas of weakness identified in portfolios from this unit:

- Poor identification of a chosen individual and sport – sometimes difficult to locate in the portfolio and to determine what was proposed.
- Inappropriate choice of candidate – 12 year old brother doing weight training, teacher as a subject, some-one already following an intense training programme.
- Demonstration of a lack of appreciation of what constitutes a sensible programme of activities – some are far too demanding on time or are too strenuous and some include too few or insufficiently challenging activities.

- Many suggested or actual diets provide insufficient nourishment. It must be remembered that a dietary programme for 4 weeks is not required – but there should be a sensible description of diet and its importance for the success of the training programme.
- Most candidates make sensible use of tests to assess physical capability – some may not be relevant to the sport in question however, and some candidates do not explain why they are using the tests they undertake.
- In some portfolios, even when initial and final measurements of physical capability were taken, the next, logical step of calculating changes was not completed.
- In some cases candidates were so keen to state their programme had been effective that marginal improvements were taken as significant.
- Unfortunately in the work on a case study of an injury or the profession related to sport many candidates resort to what appeared to be information down-loaded from the internet which had been altered little. This compromised some candidate's marks in these two areas and resulted in mark reduction at moderation. Professional sporting "celebrities'" injuries still appear in many portfolios – some of these injuries are becoming somewhat historical. Some chose an occupation where, unfortunately, the scientific nature of the work was minimal.

## **Mark Ranges and Award of Grades**

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.