



General Certificate of Secondary Education

Applied Science 4861

APSC/3 Developing Scientific Skills

Report on the Examination

2007 examination – June series

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General comments – The portfolio units (1, 3, & 4)

Activities

Most centres undertook a good range of activities that covered the specification, although a small number of submitted tasks were not appropriate. There were some excellent examples of activities set in interesting vocational contexts, which candidates clearly found interesting.

Assessment

In all three units there were instances of centres being over-generous in their marking, especially at the higher end. Assessor annotations, showing where and how marks had been awarded, were generally evident, but some centres still need to address this issue. It is imperative, especially in APSC3 and APSC4, that teacher annotation clearly shows how much guidance a candidate has been given and the level of independence at which he/she is working.

There was some misinterpretation of the requirements of the specification in APSC3 and APSC4.

There was evidence that many centres had carried out thorough internal standardisation, which was very encouraging.

Penalties for incomplete portfolios were correctly applied in most cases, although it was disappointing to see a relatively large proportion of centres submitting incomplete material. Whilst it is not a requirement that every candidate completes every strand of APSC3, to do so allows candidates access to higher marks and is strongly encouraged.

Candidates may submit more than one piece of work for each strand of APSC3. For example, the section on Chemical Analysis Techniques may include a piece on qualitative and a piece on quantitative analysis and marks may be taken from both pieces. However, there was some confusion where part of the marks for a strand were taken from two pieces of work. Each individual mark must come from the same piece of work – eg the mark for Strand A in the above example must come from either the qualitative or the quantitative piece, but not some from each.

Presentation of the work to the moderator

Work was generally well presented. Plastic wallets and cardboard folders were in evidence, but most centres followed the guidance to simply hole punch and hold candidates' work together using treasury tags. The use of paper clips or staples to hold work together is to be discouraged, as work can easily become detached and muddled. Few centres sent in class work or theory work that was not marked or part of a candidate's assessed work.

Most centres sent their Centre Mark Forms and samples promptly (some were even early, which did help with the moderator workload). However, a number were very slow in submitting marks and sending the sample requested, which severely hindered moderation.

Generally, the Centre Declaration Sheets and Candidate Record Forms were completed correctly. Some centres, however, did not complete the 'title of candidate's work' sections, did not fill in all the marks on the grid, or gave marks on the CRF that did not tally with the mark on the CMF or the candidate's work. It is important to complete these forms correctly as they help the moderator navigate the work and find out, quickly, where all the marks are.

Further support

Teachers are encouraged to make full use of the guidance available from AQA which includes:

- The Teachers' Guide for the specification
- The Student Guide to Assessment
- Coursework Information for Centres 2007/2008 (sent out by the Subject Department at the beginning of each academic year)
- Portfolio Advisers
- Teacher Support Network
- Ask AQA for Teachers

Strand A: Planning and Following Instructions

Teacher annotation in this strand is vital to show the moderator how much guidance a candidate has been given.

In most cases, risk assessments were specific to the tasks undertaken, although there was some confusion between 'hazard' and 'risk'. The amount of guidance given in preparing the risk assessment is not the only factor to be taken into account when marking: a risk assessment must also be complete, comprehensive and include all risks associated with the equipment and materials used in the task.

To achieve Stage 3 marks, the task must be comprehensive so that 3A.2 and 3A.3 are covered. Simple investigations would not allow access to these marks.

Strand B: Obtaining Evidence by Experimenting

In a number of instances, candidates were awarded marks for headings and units in pre-prepared tables, which they should not have been.

There was some confusion in awarding marks for repeats. At Stage 2, a comment from the teacher is sufficient for the marks, unless no repeats have been done, in which case the candidate should say why repeats were unnecessary. At Stage 3 a comment from the candidate is required, along with clear annotation from the teacher to state that the candidate repeated their measurements independently.

Graphs with lines of best fit were generally good, although a small number of centres awarded marks for computer-generated graphs, or for work with no graph (and no compensatory marking from Stage 3). This is the only instance in the specification where a mark in Stage 3 can be awarded if Stage 2 is incomplete, but centres must follow the guidance (Teachers' Guide, page 40) very carefully.

Strand C: Analysing and Considering Evidence

Generally, marks in this section were close to the AQA standard. Some centres awarded marks in Stage 2 where there were no calculations or, conversely, awarded marks for calculations alone. To award 3C.2 calculations must be sophisticated and consistent, and there must be evidence from the candidate (teacher annotation is not sufficient). Marks should not be awarded for simply substituting numbers into an equation that has been provided.

Strand D: Evaluating Evidence

Occasionally marks were awarded for generic statements that were not creditworthy (eg 'it went well' or 'I could repeat it'). To award 2D.2, the improvements suggested **must** be justified, and at Stage 3 a detailed discussion is required, with explanations rather than a simple list of strengths and weaknesses.

Strand E: Vocational Application

Generally, if the entire investigation was set in a vocational context, this was covered well. However, some centres tagged the vocational application on at the end of an investigation, and therefore did not give candidates as much opportunity to achieve the marks. At Stage 2, a specific workplace should be mentioned rather than a general one.

Mark Ranges and Award of Grades

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