



General Certificate of Secondary Education

Applied Science 4861

APSC3 Developing Scientific Skills

Report on the Examination

2008 examination – June series

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General comments

Activities

There were some really nice examples of work being set in a vocational context right from the start of the investigations. It is much easier for candidates to respond in all skill areas if the vocational context is introduced by “setting a scene” rather than adding it on at the end.

A lot of downloaded material was being credited throughout: downloaded material (even if sourced) is not creditworthy unless it has clearly been used and rewritten by the candidate.

Assessment

Generosity in marking was mainly due to misinterpretation of the specification requirements or lack of annotation. Annotation was generally good although there are still some centres that have not annotated the work sufficiently. It is essential that the teacher annotation clearly shows how much guidance a candidate has been given and the level of independence at which he/she is working.

Whilst tick sheets are useful at the front of a piece of work, annotation within the work is also needed to show the moderator where the evidence can be found.

Some centres submitted more than one piece of work for each strand and it is possible to take best marks from each piece. It is very important to record all results on the candidate record form so the moderator can see which piece of work the marks have been taken from. There was still some confusion however where bullet points were mixed and matched between the two pieces. The best mark in any strand must come from one piece of work only.

Presentation of work to the moderator

Most of the work submitted was generally presented in good order, with the necessary paperwork included. It would be helpful if Centres did not use plastic wallets, paper clips or staples, the best method is to punch and tag work together. Centres should not submit classwork or theory work that is not marked or part of the candidate’s assessed work.

A number of the Candidate Record Forms seen were incomplete or incorrect, as were the centre mark forms. Centres should check that the mark on the Centre Mark Form matches that on the Candidate Record Form. It is also helpful to the moderator if work is put in the order set out on the Candidate Record Form and the best marks have been identified.

Unfortunately, quite a few centres took a long time to send in the samples requested. It is important that deadlines are adhered to and paperwork is completed and checked carefully so that moderation can run as smoothly as possible.

Further support

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

- The Teachers’ Guide for the specification gives details on marking portfolios
- The Student Guide to Assessment
- Coursework Information for Centres 2007/2008 (sent out by the Subject Department at the beginning of each academic year) gives general information on entries, specific notes on marking of each unit (including appropriate tasks), administration procedures and the role of the Portfolio Adviser
- Portfolio Advisers
- Teacher Support Network
- Ask AQA for Teachers

Strand A: Planning and Following Instructions

This was generally well marked at the lower stages, however, centres need to remember the increasing demand across the marking grid. Some risk assessments were awarded stage 3 marks for being completed independently even though there were essential hazards and risks missing. Across all stages the risk assessment must be complete and comprehensive. Detail about all equipment and chemicals is required and these should be mentioned specifically. For example, “chemicals” would not gain marks because this is not specific enough.

It should be noted that within skill A, A.1 carries 2 marks and A.2 and A.3 carry one mark each. Occasionally centres were awarding 3A.2 and 3A.3 for simple experiments. To award these two criteria, the investigation must be of a complex nature.

Strand B: Obtaining Evidence by Experimenting

Once again, this skill was marked well at stage 1 but some errors were made in stages 2 and 3. Particular problems included awarding 2B.3 and 3B.3 for bar charts. To award these bullet points, the graph drawn must have an accurate line of best fit. It should also have an appropriate and correct scale with labelled axes, including units. The tables produced should also have headings and units. Some centres are still providing tables for candidates to complete which limits them to stage 2, since they have not drawn their own table.

There were quite a number of centres that were awarding 2 marks for 3B.2 where there was no comment from the candidate. The candidate must explain why they thought it necessary to repeat the experiment. Please also note that providing a method sheet, which instructs them to repeat the experiment, means that 3B.2 cannot be awarded, since they have not done this independently.

Strand C: Analysing and Considering Evidence

There was still some confusion with this skill area from centres that had carried out a qualitative investigation for the Chemical Analysis Techniques strand. Without calculations, stage 1 is incomplete therefore with compensation from stage 2; the maximum mark that can be awarded is 4.

A number of centres are awarding 2C.1 when there is no reference to data within the conclusion and 3C.1 when no quantitative relationship has been identified. Centres are still awarding 3C.2 for equations that have been provided. The candidates must show how they have manipulated data or rearranged an equation.

Strand D: Evaluating Evidence

Marking was accurate at stage 1 but there are still a number of centres that are awarding 4 marks for improvements that are not justified. At stage 3 far more detail is required and several improvements are required. There should be a detailed discussion of the strengths and weaknesses to award 3D.1.

Strand E: Vocational Application

Some excellent examples were seen where this skill had been done well. There must be a link to a workplace and this must be specifically named at stage 2. Centres should note the difference between “give a use”, “describe its use” and “explain why it is useful” as the demand increases across the marking grid. A lot of generosity was seen at stage 3 where marks had been awarded for just a few sentences.

Mark Ranges and Award of Grades

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