



**General Certificate of Secondary Education  
June 2011**

**Applied Science (Double Award) APSC4**

**Using Scientific Skills for the Benefit of  
Society**

**Unit 4**

***Report on the  
Examination***

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## Applied Science (Double Award) APSC4

### General

Most centres had completed the required risk assessments for strand A and B but a significant number did not complete them for strand C and D. Risk assessments are required for all pieces of work where a practical has been carried out even if there are no apparent hazards. The good practice developed in APSC3 should be carried through into APSC4. This includes completion of risk assessments for each investigation.

### Strand A: Monitoring Living Organism

In strand A, a plan must have all the necessary detail for another person to follow to be awarded stage 2 and 3 marks. This includes all necessary information such as quantities. 2A3 was often awarded incorrectly since the candidate had not referred to their data when discussing patterns. To award 2A4, the candidate must use scientific reason to explain the patterns. On occasions, candidates had done some previous research in their introduction (for example into the roles of different fertilisers) but unless actually applied to the findings in the conclusion, the work cannot be credited. Some candidates did not give sufficient detail about examples of monitoring for 2A6. There was some over marking at stage 3 where just a few sentences had been awarded marks. In particular, 3A3 had been awarded without any discussion of the shortcomings. This could include for example the significance of any anomalous results and the effect that these had on the overall conclusion.

### Strand B: Making a Useful Product

In strand B, the main point that was still taking centres out of tolerance was 2B6. A significant number of centres awarded general notes about rate stage 2 and 3 marks. At stage 2, candidates must relate the factors directly to *their* reaction for example “increasing the *concentration* of hydrochloric acid would increase the rate of reaction”. Two factors that are relevant to the reaction must be described for example pressure would not be appropriate unless candidates had carried out gaseous reactions. There were a number of centres who had ignored the need for a word equation at stage 1 and 2 and therefore candidates were limited to stage 1. The word equation must be correct, on occasion, centres had credited incorrect word equations. Similarly, credit had been given for incorrect chemical equations for 3B2. To award 3B2, the equation must also be accompanied by an explanation of the type of reaction which relates specifically to the reaction carried out by the candidate. 3B5 was often awarded for uses of the product without directly relating this to their importance to society.

### **Strand C: Assembling an Electronic / Electrical Device**

In strand C, the main point that was taking centres out of tolerance was 2C4. Candidates had been given credit for evaluating the construction of their device and not its *effectiveness* therefore limiting candidates to stage 2. At stage 3, there was some over marking with limited evaluations being credited for 3C3 and 3C2 being awarded for alternative *devices* and not alternative tests.

### **Strand D: Using Machines**

In strand D, some centres were still not linking the examples of machines to workplaces. The main point that caused centres to go out of tolerance was 2D2. A significant number of centres had awarded a mark for general notes on friction without it being related to *machines* nor containing the keywords stated in the specification – heat, energy loss and efficiency. 3D2 was also often awarded without any evidence from the candidate. Many centres had provided tables for candidates to complete however without the candidate giving both the formula and at least one worked example for each calculation, these marks could not be awarded.

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

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

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