



**General Certificate of Secondary Education  
June 2011**

**Additional Applied Science**

**AASC/2F**

**Science at Work**

**Unit 2**

***Report on the  
Examination***

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## **Additional Applied Science Foundation Tier AASC/2F**

### **General comments**

As in previous years it was rewarding to see all parts of the questions attempted by the majority of candidates. Candidates who had carried out the practical procedures tested in the examination had an obvious advantage over those who had not. It was quite disappointing to see how very basic chemical tests such as testing for starch were not well known. The forensic questions prove to be the best answered with many candidates getting high marks in Question 2.

### **Question 1 (Low Demand)**

- (a) This low demand question on the function of vitamins was not well answered.
- (b) Candidates did not seem to be familiar with this experiment and only a third of the candidates managed to get one mark. Many candidates thought that repeating the test was the best way to make the test fair. Repeating would only make the results more reliable.
- (c) Just over half of the candidates were able to calculate this very easy percentage.

### **Question 2 (Low Demand)**

This forensics question was very well answered with many candidates getting high marks.

- (a) Many candidates were able to recognise the basic fingerprint patterns and that fingerprints are useful because they are unique. Candidates are still using the DNA database to match fingerprints and must be made aware that this is a totally different database.
- (b) Candidates understood this well and were able to give good reasons. In 2bii, 'not enough evidence' was given by many candidates but this was not an acceptable answer.
- (c) The majority knew that colour was a distinctive feature of paint.
- (d) Drawing/artist impression was given by only 20% of the candidates. Far too many said it made it easier to see what you were looking for.
- (e) Just under half of the candidates were able to give a full description of making a plaster cast. Too many answers lacked detail and only scored one or two of the marks, usually for pouring the plaster onto the footprint. Candidates should be reminded that the plaster had to be mixed with water first and that a support needs to be made around the print. Making a ring around the print is not sufficient detail.

**Question 3 (Low Demand)**

- (a) The simple term 'diet diary' was not well known with many candidates guessing an answer. They were also not aware they should keep a record of the amount of the foodstuffs eaten. Keeping a food diary could be set as a homework exercise. Most recognised that the heavier you are the more food you will need to consume. Most candidates could pick out one food high in protein but often lost the other mark for not choosing a food with 'a lot of' protein. A surprising number of candidates thought that protein was for energy. Many recognised that candidate B's diet provided more carbohydrates but did not make the link between that and swimming needing more energy.
- (b) The contents of a sports drink was well known and the reason for drinking more during sporting activities.

**Question 4 (Low Demand)**

- (a) Organic compounds were not well known or the type of bonding they contain.
- (b) Interpreting information in the table was quite well done and many picked out the correct answer. Less than 1% of candidates knew anything about covalent bonding. A few mentioned weak bonds which was not credited – it is the force between the molecules that are weak, not the bonds within the molecules. This proved to be quite a difficult concept for the lower ability candidates.
- (c) How to test for starch was not well known, many were adding Benedict's reagent / universal indicator and the colour change given was often blue. Just over half of the candidates knew the chemical formula for glucose.

**Question 5 (Standard Demand)**

- (a) This was the first of the questions common to the higher tier paper and the first part was well answered with most candidates knowing a bacterium that causes food poisoning and the symptoms, although the spelling was very weak.
- (b) Less than half the candidates were able to score one mark on this question. Although many seemed familiar with the streak plate technique they were unable to express themselves clearly enough to gain the marks. Many were simply wiping the steak pie onto the plate. Those that used a streak method often lost marks by dipping the loop into the sample again for the second streak. The idea of the second streak is to thin out the sample to make identification easier. Not many candidates got the identification mark – they simply said identify bacteria without giving an indication of how. Not many candidates mentioned using a sterile technique. Some that lost the mark by dipping the loop in alcohol or hydrochloric acid and not flaming it afterwards.
- (c) Just over half of candidates could give a correct answer. Many gave the answer 'bread' which is incorrect.

### Question 6 (Standard Demand)

- (a) Fewer than half the candidature got full marks for this question. Some lost a mark by giving plastic as their synthetic material but this is not suitable for clothing.
- (b) 70% of candidates were able to name one or more properties of synthetic materials. Too many were giving vague answers like 'comfortable' which were not credited. 6bii was poorly answered with most candidates just repeating the question and saying foam was a good shock absorber. They did not make the link between the structure of the foam and its properties.
- (c) 70% of candidates were able to work out the average and just over half were able to give a reason why the shoe they chose would be better for use on Astro Turf. Candidates should be prepared for these 'explain' type questions and be able to put more detail and reasons into their answers. Candidates should be reminded that in these comparative type questions the answer they give should be comparative – ie. Because it has *a lot of* force is not comparative. It has *more* force is comparative.

### Mark Ranges and Award of Grades

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