



**General Certificate of Secondary Education
January 2012**

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

All parts of the questions were attempted by the majority of students. Forensic question 1 was answered well. It was disappointing that very few candidates could describe how to work out the refractive index.

Question 1 (Low Demand)

- (a) The majority of students picked out the correct equipment to collect evidence.
- (b) Students need to be reminded about their slack use of language 'to get' the finger prints implies collecting them and the question is about how to reveal them. Some failed to make a use of the brush in (b)(ii) and merely dusted with the powder.
- (c) Generally well answered. Lots of who, what, where, when answers. Some put date and time as two separate points so lost a mark for this. (c)(ii) was not well answered. Lots of smoke and colour changes. The answer effervescence was not seen.

Question 2 (Low Demand)

- (a) Well answered with most students getting at least 2 marks and many three. Bendy was allowed in this instance but students should be reminded that 'easy to bend' would not be allowed as this does not imply flexible.
- (b) In 2(b)(iii) not many students got two marks. Many references to the pole or general comments about better athletes were not credited.
- (c) Many clear answers with rubber grips though some students just said 'grip' so missed out on this mark.

Question 3 (Low Demand)

- (a) Not very well done. Many students got the mark for reading 39 but didn't know what to do with the number.
- (b) The bar chart was filled in accurately. In (b)(ii) many students lost marks by not giving comparative answers. Low in sugar or high in protein was not sufficient for the mark. Students need practice at answering this type of question as they know the answer but do not express themselves well enough. In (b)(iii) it was disappointing to see that the majority of students do not know why iron is important in the diet.
- (c) Usually students could answer heat or water which were both very generously allowed. The ideal answer of warmth and moisture was rarely seen. Many think light and oxygen is needed. In (c)(iii) students failed to read to the end of the question and gave inappropriate answers such as freeze and refrigerate, whereas pickling and drying were the sought after answers. Many students lost marks by just sealing the container which would only work if there was another method of preservation as well.

Question 4 (Low Demand)

- (a) In (a)(i) most were getting 2 marks for steak and chicken. Only a few answering seeds. (a)(ii) was well answered with building muscles given frequently. Some students think protein gives energy.
- (b) Many students referred to calories rather than energy and did not recognise that he was using up more energy.
- (c) This very simple calculation could have been done without the use of a calculator but it proved very difficult for lots of students.
- (d) Lots of incorrect answers mentioned light and thin for temperature control.

Question 5 (Standard Demand)

- (a) Very few students mentioned plasticine. Some unsuitable materials like blue tack were mentioned. Most mentioned plaster of Paris so got at least one mark. Most picked up one mark for 'photograph'.
- (b) Students were given the opportunity to draw a diagram to help them explain their answer but quite often this resulted in them losing marks as they failed to identify the angles correctly or drew the normal line in the wrong place. Quite often the path of the light followed the normal through the glass which made it very difficult for the students to recognise the angles. Students need much more practice at drawing this diagram. Students were often trying to indicate the angles on the emergent ray which only seemed to confuse them.
- (c) Astute students simply answered 'the glass was from a television not the window' for two marks. This was rarely seen. Some students correctly said the glass was not from the window and left it at that. Many went into elaborate stories about what had happened at the time of the crime, with TV's being thrown through windows. Some students were confused by the data thinking all of the answers were the same – difficulty with decimals?

Question 6 (Standard Demand)

- (a) Lots of students wrote the names of the 2 additives followed by the uses so could only get 1 mark. Many got the uses mixed up. Lots thought aspartame was a preservative. Most knew that tartrazine causes hyperactivity but simply said 'makes them hyper' which was allowed.
- (b) The use of benzoic acid was not well answered, lots of 'for flavour', 'colour' or 'to make it fizzy'. In (b)(ii) most candidates got at least one mark for saying loss of sales. In (b)(iii) there were lots of confused answers. Many students still talked about the company and not the consumer. 'not buying again' was the most common correct answer.

Mark Ranges and Award of Grades

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