

Examiners' Report

Summer 2012

Primary and Lower Secondary
Curriculum (PLSC)
Year 6 Science Achievement Test
(JSC01) Paper 01

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General comments

This was the first examination for the year 6 achievement test in science. Many candidates were very well prepared and had a sound knowledge of science at this level. This was exemplified by high scores, sometimes close to full marks, on the multiple choice sections of the paper.

In short answer questions, many candidates demonstrated their proficiency in recall of scientific terms and understanding of scientific principles although in some cases, similar terms were muddled e.g. soluble / solution / solvent.

In longer answer questions, many candidates demonstrated their scientific vocabulary, but were sometimes limited in how they used it in an explanation. High achieving candidates were able to demonstrate a high standard in all these areas and their overall performance reflected thorough preparation by both candidates and centres.

Comments on individual questions

Question 1: Almost all candidates answered this correctly.

Question 2: Almost all candidates answered this correctly.

Question 3: Responses were mixed, with no common incorrect choice. More able candidates answered this correctly.

Question 4: There was good understanding of the word habitat, with almost all candidates answering correctly.

Question 5: Responses were mixed, with no common incorrect choice. More able candidates answered this correctly.

Question 6: Although this was mainly answered correctly, a number of candidates offered the reverse answer A instead of D.

Question 7: How to identify the producer in a food chain was well understood and most candidates answered this correctly.

Question 8: Some candidates had a very good understanding of pollination, correctly choosing answer D as their response. However many candidates incorrectly chose answer B (flowers are always pollinated by insects).

Question 9(a): Few candidates correctly identified part X as the root, with many suggesting either the gum or a particular named tooth.

Question 9(b): Most candidates could offer brushing as a creditworthy answer, often accompanied by other valid points.

Question 10(a): Q10(b) Many candidates gave red and white blood cells as a pair of answers, or chose two unrelated parts of the body. Only the most

able candidates correctly named arteries and veins for 2 marks; candidates who chose these correct terms but reversed them, were awarded 1 mark in recognition of correct terminology.

Question 11: Few candidates chose the correct property of aluminium with the most popular choice being answer A (brittle).

Question 12: The majority of candidates were able to identify the properties of copper and plastic correctly.

Question 13: Although most candidates chose the correct answer A, it was common in this question, more so than any other, for candidates to leave two choices marked without crossing one out.

Question 14: Few candidates chose correctly here, but there was clear evidence of some candidates working out their choices by making notes on the question paper, rather than memorising their decisions as they worked through the question. Generally, those who reached the correct answer had used this working out method.

Question 15: Most candidates showed clear understanding of the term condensation.

Question 16: More able candidates assimilated the information in this question well and correctly chose answer D. There was no consistent pattern to incorrect responses.

Question 17: Most candidates showed good understanding of the properties of solids, liquids and gases.

Question 18: Candidates clearly understood that the salt had dissolved, since answer A (insoluble) was rarely chosen. However, incorrect choices of answer B (soluble) and answer D (solvent) were made as frequently as the correct answer C (solution).

Question 19: Many candidates chose answer A (carbon dioxide) or answer B (nitrogen) in preference to the correct answer C (oxygen). It was rare to see answer D (water) chosen.

Question 20: All but the weakest candidates scored all 3 marks here.

Question 21: The most able candidates scored 2 or 3 marks, with very clear descriptions. However the majority of candidates copied sections word for word from the question stem without adding their own knowledge and understanding to explain **why** Tom could smell the perfume later than Afza. A small minority of candidates thought that Tom was in another room.

Question 22: Many candidates had a good understanding of switches.

Question 23: Most candidates understood the terms transparent and opaque, so were able to choose the correct explanation of how a shadow is formed.

Question 24: There was good understanding of magnetism, with almost all candidates recognising that plastic and rubber objects would not stick to the magnet, thus narrowing their choices to answers B or C. Although most candidates then realised that between the metal objects, only the steel paper clips would stick to the magnet, a significant number did not and thus incorrectly chose answer B.

Question 25: There was good understanding of light sources, with almost all candidates answering correctly.

Question 26: Although candidates interpreted the data well, leading them to order the four materials correctly, a number of candidates offered the reverse answer B instead of C.

Question 27: Most candidates chose answer C or answer D in about equal proportion.

Question 28: Most candidates correctly chose answer A.

Question 29: As with Q14, which had a similar layout, those candidates who made notes through their thinking process, such as ticking and crossing each of the statements first, often reached a correct answer. Candidates may do this rough work provided it does not interfere with recording a clear, unambiguous choice of final answer.

Question 30: Most candidates correctly chose answer D.

Question 31: The need to add another cell to the circuit was well understood by the majority of candidates; there was no pattern to the incorrect choices.

Question 32(a): Most candidates scored 2 marks here. Others made a clear reference to light but struggled to complete their explanation accurately.

Question 32(b): The question stem referred to **the position of the sun** and the fact that **the length of the shadow had changed**. Many candidates wrote down correct factual information but did not answer the question. Since many candidates will progress to International GCSE, it would be helpful to them to consider questions like this in the two parts emboldened above, one for each mark. Hence, correctly stating where the position of the sun is at noon gains the first mark and correctly stating the way in which the shadow's length has changed as a result, gains the second mark. In science, candidates can usually treat the word **change** in a question stem as a cue to include in their answer what the change is/the direction of the change.

Question 33(a): Many candidates correctly explained that Charlie was nearer to the source of the sound than Kurt.

Question 33(b): Most candidates correctly chose vibration from the list of words.

Question 33(c): In both parts, many candidates copied phrases from elsewhere in the question. Very few made reference to the idea that sound could pass through solids in Q33(c)(ii).

Question 34(a): Most candidates put a correct value of 8 in the table.

Question 34(b): Many candidates knew the correct unit; others made what appeared to be guesses, such as **number**.

Question 34(c): Gravitational force was the most common incorrect answer.

Question 34(d): Candidates who structured their answer by including shoe names were generally able to attain the 2 marks more easily than those who gave generic answers about friction. Candidates who incorrectly answered 34(c) sometimes went on to give an answer about friction here.

Question 35(a): The majority of candidates correctly wrote 68, but not all followed this with a unit. Candidates should be directed at an early stage in their science education to write °C not the frequently seen C° or °c.

Question 35(b) and 35(c): Some candidates seemed unclear about the term **pattern**, which affected their answers in these two question parts. Those who did know how to describe a pattern or trend in results often wrote clear answers, but these were in the minority.

Question 36: Most candidates drew neat, accurate, labelled bar charts and scored all 3 marks. Candidates scoring 2 marks had almost always overlooked the labelling of the bars with penguin names.

Summary Section

Based on their performance on this paper, candidates should:

- spend time and use the Sample Assessment Materials (SAMS) on the qualification website to practice in preparation for the exams;
- write and recall units with accuracy, eg °C, newtons;
- ensure that they only leave **one** choice of answer marked with a cross for the multiple choice questions;
- become more familiar with describing patterns in simple data
- consider the wording of the question stem, particularly in 2 mark questions, to guide the construction of their answer;
- be discouraged from copying out statements in the stem of the question as part of their answer because merely repeating the question will not gain credit.

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