

Principal Assessor Report 2002

Assessment Panel:

Science

Qualification area

**Subject(s) and Level(s)
included in this report**

Science Standard Grade Foundation
Science Standard Grade General
Science Standard Grade Credit

Statistical information: update

| | |
|----------------------------------|-------|
| Number of entries in 2001 | |
| Pre appeal | 15518 |
| Post appeal | 15340 |

| | |
|----------------------------------|-------|
| Number of entries in 2002 | |
| Pre appeal | 14129 |
| Post appeal | |

General comments re entry numbers

There has been a slight decrease in the number of candidates presented for this examination.

This is likely to reflect the fact that some schools have introduced Intermediate 1 courses in the discrete sciences and removed Standard Grade Science from their curriculum.

General comments

There continues to be a year-on-year improvement in candidate performance at all levels. However, a significant number of candidates achieved only grade 7, especially in Knowledge and Understanding and Problem Solving as in previous years. Grades achieved in the Practical Abilities element enhanced the overall grade achieved by candidates

Grade boundaries at C, B and A for each subject area included in the report

Knowledge and Understanding

Grade 1: 27 (/38)

Grade 2: 20 (/38)

Grade 3: 24 (/38)

Grade 4: 19 (/38)

Grade 5: 17 (/28)

Grade 6: 12 (/28)

Problem Solving

Grade 1: 30 (/38)

Grade 2: 25 (/38)

Grade 3: 28 (/38)

Grade 4: 22 (/38)

Grade 5: 19 (/38)

Grade 6: 13 (/38)

Comments on grade boundaries for each subject area

Knowledge and Understanding

At Credit Level, the grade boundaries for both grade 1 and grade 2 were in line with previous years.

At General Level, the grade boundary for grade 3 was in line with 2001, although slightly lower than previous years.

At Foundation Level, the grade boundary for grade 6 was slightly lower than in previous years

Problem Solving

Grade boundaries at Credit and General Levels are still higher than the 'a priori' 70%, 50%, although all grade boundaries were in broad agreement with previous years.

Comments on candidate performance

General comments

Foundation level

There was a general improvement in candidate performance with very few candidates achieving very low scores and most candidates attempting all of the questions in the paper. The candidates' performance in the Knowledge and Understanding element was better than in previous years and in some cases the marks were comparable with Problem Solving marks.

General Level

Candidates continued to perform better in Problem Solving than in Knowledge and Understanding. Most candidates made a good attempt at this paper and the answers from the General Level candidates were of high quality.

Credit Level

The performance of candidates was generally better than in previous years.

Areas of external assessment in which candidates performed well

Foundation level

Q7-food chains, producers, predators, prey
Q8-uses of materials
Q9-recovery time and aspects of fitness
Q10-information from a pie chart
Q11- completion of table and bar graph
Calculations and drawing conclusions were also well done.

General Level

Q1-information from a key
Q2-fairness factor
Q9-drawing a bar graph
Q12(a)-completing a table
Q17-basic needs
Q22-information from two sources
Calculations and drawing conclusions were also well done.

Credit Level

Q5- drawing a bar graph
Q7-information from a passage
Calculations and drawing conclusions were also well done.

Areas of external assessment in which candidates had difficulty

Foundation level

Q16-gas needed for combustion

Q19-energy produced by nuclear fuel, nuclear fuel is non-renewable

Q20(a)-misinterpretation of information in graph

Q21(c)- many candidates did not realise the data referred to “a pair of socks”, many chose ‘I’ through extrapolation of data

General Level

Q3-movement of rib cage and diaphragm during breathing

Q5-formation of coal – this question was very badly done, although formation of coal or oil feature in exam regularly.

Q10(b)-lichens as indicators of air pollution

Q14- many candidates did not links in the food web

Q20(b)- electroplating, galvanising, anodising

Credit Level

Q8-idea of accumulation of insecticide

Q10-toxic gases from burning plastics (note this question is KU and not PS – it was marked as KU)

Q12(b)(i)-gas that causes acid rain

Q18-drawing a line graph (many candidates not using a linear scale)

Q19(c)-geothermal energy

Areas of common misunderstanding

Foundation level

Q6(b)- many candidates gave metals used to make bronze or properties of bronze rather than uses

Q12-many candidates described what they saw in the diagrams rather than use ‘triangles’ and ‘arch’

Q15-rather than prove support for candidates as intended, the diagram caused confusion

Q21(c) –many candidates did not notice that the question referred to a pair of socks

General Level

Q22-language and content proved difficult for some candidates

Credit Level

Q6-the use of the term ‘turns of wire’ caused confusion for some candidates

Recommendations

Feedback to centres

- Centres should make reference to published marking schemes to help prepare candidates for the examination.
- Centres should continue to encourage and provide support for pupils to revise Knowledge and Understanding.
- Centres should encourage pupils to practise Problem Solving.
- Past papers should be used to help prepare pupils for the examination.
- Attention should be paid to those areas of the syllabus which are not well done and are highlighted in this report.