

## Principal Assessor Report 2004

**Assessment Panel:**

**Biology**

**Qualification area**

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

**Biology Intermediate 1**

## Statistical information: update

Number of entries in 2003	1370
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Number of entries in 2004	2809
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### General comments re entry numbers

The significant increase in numbers is the result of more centres offering the Intermediate 1 course to candidates in S3 and S4 with fewer candidates being presented for Intermediate 1 Biology from S5/S6.

The increase in number of candidates is most likely due to centres presenting candidates for Intermediate 1 courses in Biology, Chemistry and Physics instead of Standard Grade Science.

## Statistical Information: Performance of candidates

### Distribution of awards

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
A	12.6	12.6	355	52
B	21.2	33.8	595	44
C	24.9	58.7	700	37
D	13.2	71.9	370	33
No award	28.1	100	789	0

### Comments on any significant changes in percentages or distribution of awards

There has been an increase in the percentage of candidates at all levels and a decrease in the percentage of no awards. This was probably due to a number of factors including the following:

- Centres presenting for a second year
- Centres encouraging more candidates to be entered at Access 3 level.

The significant percentage of no awards is probably due to candidates who would have achieved a Foundation Level pass in Standard Grade Science. These candidates should have been presented at Access 3 level.

## Grade boundaries for each subject area included in the report

Grade Boundaries	Lowest mark	Percentage of maximum marks
A	52	69
B	44	59
C	37	49
D	33	44
No award	0	0

### General commentary on passmarks and grade boundaries

- While SQA aims to set examinations and create mark schemes which will allow a competent candidate to score a minimum 50% of the available marks (notional passmark) and a very well-prepared, very competent candidate to score at least 70%, it is almost impossible to get the standard absolutely on target every year, in every subject and level
- Each year we therefore hold a passmark meeting for each subject at each level where we bring together all the information available (statistical and judgmental). The Principal Assessor and SQA Qualifications Manager meet with the relevant SQA Business Manager and Statistician to discuss the evidence and make decisions. The meetings are chaired by members of the senior management team at SQA
- We adjust the passmark downwards if there is evidence that we have set a slightly more demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- We adjust the passmark upwards if there is evidence that we have set a slightly less demanding exam than usual, allowing the pass rate to be unaffected by this circumstance
- Where the standard appears to be very similar to previous years, we maintain similar grade boundaries
- An exam paper at a particular level in a subject in one year tends to have a marginally different set of grade boundaries from exam papers in that subject at that level in other years. This is because the particular questions are different. This is also the case for exams set in centres. And just because SQA has altered a boundary in a particular year in say Higher Chemistry does not mean that centres should necessarily alter boundaries in their prelim exam in Higher Chemistry. The two are not that closely related as they do not contain identical questions
- Our main aim is to be fair to candidates across all subjects and all levels and maintain standards across the years, even as arrangements evolve and change.

### Comments on grade boundaries for each subject area

The grade boundaries were the same as those used in 2001, 2002 and 2003 as it was felt that the paper was of the same standard as in previous years.

## Comments on candidate performance

### General comments

There was an increase in the percentage of candidates achieving all grades with a decrease in the percentage of no awards.

### Areas of external assessment in which candidates performed well

In Section A candidates performed well in the following areas (based on statistics):

- Position and parts of the breathing system
- Effect of exercise on muscles
- Identifying yeast as producing CO<sub>2</sub> which makes dough rise
- *Extracting information from details of an experiment and drawing a conclusion.*
- Identifying the parts of a seed
- Stating the function of the seed coat
- *Recognising the correct presentation of results as a pie chart*
- Stating how grey mould can be controlled in plants
- Use of immobilisation techniques
- *Extracting information from a bar chart and drawing a conclusion.*

Candidates have generally performed better in KU questions in Section A.

Candidates performed well in the following areas of Section B (based on the comments made in the marker reports)

- *Selecting information from a passage and using it to answer questions*
- *Selecting information from a table*
- *Completing a pie chart*
- *Selecting information from a passage and using it to construct a table*
- Identifying different types of milk
- Stating one long term effect of drinking.

As in 2003 candidates achieved more success in questions from Unit 1 Health and Technology. In Section B candidates gained more marks from PS than KU questions.

### Areas of external assessment in which candidates had difficulty

#### Section A

- *Calculations*
- *Identifying a suitable control*
- Removal of yeast and addition of CO<sub>2</sub> to brewery conditioned beer

## Section B

In this section candidates performed reasonably well in those questions set to meet the C grade description. A number of candidates (probably those who gained no award) did not even attempt some simple KU questions.

The following list contains mainly areas or skills which were assessed by questions designed to be more difficult.

- *Calculating a percentage*
- *Drawing a conclusion from a table of information*
- Naming carbon monoxide as the substance in cigarette smoke which reduces the ability of blood to carry oxygen
- Importance of vitamins in a healthy diet
- The three food types required in a healthy diet
- Stating dormancy as a delay in germination
- Naming photosynthesis as the process of food production
- Naming layering as a method of propagation
- Explaining why reducing fuel consumption leads to a reduction in pollution.

## Recommendations

### Feedback to centres

There is evidence that candidates have better problem solving skills although many candidates struggle with calculations and identification of control experiments.

Candidates must consolidate their knowledge in all units. There is, however, some evidence of good knowledge of Unit 1 Health and Technology.

Candidates from some centres used a blank sheet of paper for answers to Section A instead of the grid provided. In another centre candidates had written all their answers on blank paper instead of on the question paper. Some of these candidates did not do the graphs – they wrote that no graph paper had been provided. Obviously these candidates have been seriously disadvantaged and centres must ensure that candidates are aware of where answers have to be written for each Section of the paper.

Centres should include additional evidence of course questions (beyond NAB level) covering content not assessed in the ‘prelim’ for appeals or absentee awards for A or B grades. A high scoring performance in a NAB (or equivalent) covering content not assessed in the ‘prelim’ is required for appeals or absentee awards for grade C.