

## Principal Assessor Report 2004

**Assessment Panel:**

**Biology**

**Qualification area**

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

**Human Biology Higher**

## Statistical information: update

Number of entries in 2003	3294 (Pre Appeal)
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Number of entries in 2004	3450 (Pre Appeal)
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### General comments re entry numbers

There has been a further increase in entries in 2004 compared to 2003. There has been a gradual increase in numbers of candidates taking Human Biology since its inception in 1993. When the new Higher Still exams were introduced, there was a slight decline, but that has only been temporary.

## Statistical Information: Performance of candidates

Distribution of awards	%	Cum %	Number of candidates	Lowest mark
A	20.3	20.3	702	95
B	21.1	41.4	727	81
C	24.1	65.5	830	67
D	10.6	76.1	367	60
No award	23.9	100.0	824	0

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

Performance in Section A multiple choice questions which are pre-tested and/or have been used in previous examinations suggested that the candidate population was very similar or even slightly more able than in the previous year.

There is an increase in A awards in 2004 compared with previous years and this reflects the improved performance in the examination overall. A number of factors may contribute to this:

- The availability of past papers with SQA answers
- The publication of multiple-choice questions by SQA for the past four years
- Textbooks written specifically for the Higher Human Biology course
- Teachers/lecturers becoming increasingly familiar with the course and the standards applied
- Increased motivation of candidates
- Regular Unit tests throughout the course

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

Grade Boundaries	Lowest mark	Percentage of maximum marks
A	95	73
B	81	62
C	67	51.5
D	60	46.5
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 examination was judged to be more demanding than last year at the upper end of the scale in line with a setting strategy to reduce the A grade boundary. As a result the cut-off score for an A grade was reduced by 2 marks to 95.

The examination was judged to be of the same standard as in 2003 at the middle region of the scale and so the cut-off score for a C grade was held at 67.

## Comments on candidate performance

### General comments

There was some very good performance and some very poor performance. There was evidence of improved performance in problem solving and data handling especially in the graph presentation question. The essays were also quite well done.

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

Candidates performed very well in the following questions:

- ◆ 4(a) and (f)(i)
- ◆ 6(b)
- ◆ 12(a)(iii)
- ◆ 13(a).

These were mostly easy problem solving type questions.

Candidates are well able to draw graphs and carry out simple calculations. However, by increasing the difficulty of these questions, there is a dramatic drop in success. eg 4(f)(i) 98% of candidates answered this correctly compared to Q 4(f)(ii) where only 23% gained the mark.

Most candidates performed very well in Question 2 on simple monohybrid genetics.

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

Q7. Less than one third of candidates were able to answer each part (a) (c) and (e) correctly on the Rhesus blood group system. Few candidates were able to answer part (d) precisely and correctly. Most answered in very vague terms.

The average mark for part (d) was 0.26 out of a max of 2 ( a Facility Value of 13%).

Q8b. Only 3% of candidates gained the right answer by using a percentage increase. Almost all simply added on the previous year's increase. This item also had a low discrimination value and, on reflection, it may have been wiser to accept the simpler calculation as being correct as well.

Q11a. Only 31% of candidates were able to define "carrying capacity" correctly.

Q13. This question was demanding in part due to a fairly tight marking scheme. Most candidates gained the mark for part (a) but only 36% of candidates scored the marks for the other parts of the question.

## Recommendations

### Feedback to centres

In general, candidates are well prepared by many centres. Basic knowledge is sound and candidates perform well in straight recall of technical terms. Difficulties only arise in questions involving a degree of sophisticated analysis and problem solving, and in the writing of extended answers.

Centre estimates are remarkably accurate and have improved over recent years.