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Examiners' Report June 2010

GCE

GCE08 Biology 6BI03

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June 2010

Publications US023557

Contents

Maximum mark 40

Mean mark..... 27.7 1a & 26.71b

Standard deviation..... 6.8 1a & 6.5 1b

Types of reports.
Out of a sample of 311 projects, 34% were Visit reports and 66% were reports on Issues. This lower number of visit reports is the same as in 2009 and still rather disappointing compared to the numbers observed in the early SNAB years. However, the welcome increase in the *variety* of Issue reports has been maintained and this is excellent. Interestingly, rather 'safe' unambitious topics such as stem cells and cystic fibrosis are not the favourites any more. The most popular were HIV and Malaria. Very few reports were on inappropriate titles which is good.

Zoos are still by far the most popular venues for a Visit but there is still no further increase in the *variety* of visits. For more detailed comments on the individual assessment criteria, see below.

Issue Topic	%
HIV	4
Malaria	3
Parkinson’s disease	3
Stem cells	3
Heart disease	2
Swine flu	2
Cervical cancer	2
Creatine	2
Diabetes	2
Muscular sclerosis	2
Obesity	2
Steroids	2
Alzheimer’s	2
Atherosclerosis	2
Cancer	2
Cloning	2
Homeopathy	2
HPV	2
Leukaemia	2
Lung cancer	2
MRSA	2
Renal disease	2
Schizophrenia	2
Skin cancer	2
Statins	2
Xenotransplantation	2
together with (in equal order of frequency) ADHD treatment with fatty acids, Alcohol and the brain, Amur leopards, Aspirin, Alcohol and dementia, Anorexia, Artificial blood, Artificial heart, Asbestos, Beavers, Bee decline, Biodiversity, Biofuels, Bipolar,, Black Squirrels, Boys becoming feminine, Blue Fin Tuna, Bioplastics, Brain Tumour, Breast Cancer, Cane Toad, Chickenpox, Cholesterol levels, Colo rectal cancer, Coral, bleaching, Coral triangle, Cystic Fibrosis, Deforestation, Depression, Designer babies, Diabetic retinopathy, Down's Syndrome, Diabetic nephropathy,, Elephant populations, Epilepsy, Ethiopian Wolf, Exercise, Ebola, Famine, Fetal Oxygen Supply, Fibropapilloma tumours in turtles, Fluoxetine, Foot & Mouth, Female Genital Mutilation, Giant Pandas, Global Warming, GM Crops, Gorillas, Graves Disease, Hallucinogens, Hearing ability decline, High fat diet, HIV anti retroviral drugs, HIV transmission, Hepatitis C, Human population, Huntingdon's Disease, Infection control, Intelligence, Insomnia, Joint replacement, Loggerhead turtles, Male infertility, Manic Depression, MDMA, Methadone, MMR vaccination, Multiple Sclerosis, Nanotechnology, Neural Tube Defect, Non Hodgkins Lymphoma, Onchocerciasis, Over fishing, Organ transplants, Post Traumatic Stress Disorder, Prozac, Prostate Cancer, Proteus Syndrome, Red Squirrel, Rejection of Stem Cells, Salmon, Sedatives & PTSD, Sickle Cell Anaemia, Sleep apnoea, Snake Venom, Spinal Cord Injuries, Strokes, Sumatran tigers, Tourette syndrome, The snail, Tigers, Transplant rejection, Trypanosomiasis, Tuna fishing, Turf grass for golf courses, TB, Venomous Snake Bites, Thalassaemia, Wilsons disease.	

Visit Topic	%
Zoo	47
Chicken hatchery	19
Leech farm	14
Hospital	5
National Park	4
Nature reserve	1
Game Park	1
Hydroponic Farm	1
Nottingham University	1
Mountain Zoo	1
Wild Bird Centre	1
Brewery	0.5

Marks awarded.

The sample of scripts this summer showed a mean score of 27.7, better than last year with only a 0.5 mark difference between Visits and Issues, one moderator reporting that in her sample, zoo visits were done far better than the issue reports. The data confirm that these assessment criteria are still more accessible for the students compared to the original SNAB criteria before 2009. Indeed, 10% of 'top' candidates now got more than 36/40 marks in this sample compared to 2.8% in 2009.

In addition, at awarding in July, there was no significant difference between the moderated (1A) scripts and the examined ones (1B).

The distribution of marks for the various criteria is shown below as a % of the possible total ie. 100% for 1.1a would mean that all students got the maximum of 2 marks.

Criteria	Description	Issue 2010 %	Visit 2010 %	% diff
1.1a	**Identify problem or question**	91	87	-4
1.1b	**Description of problem**	75	67	-8
1.2a	**Discuss methods or processes**	83	82	-1
1.2b	**Data or solutions to problem**	44	46	2
1.3a	**Valid, reliable data / graphs, tables etc**	43	40	-3
1.3b	**Methods appropriate or effective?**	54	52	-2
2.1a	**Implications identified**	76	83	7
2.1b	**Implications discussed**	55	61	6
2.2a	**Advantages discussed**	64	71	7
2.2b	**Risks discussed**	49	49	0
2.3a	**One alternative solution discussed**	66	63	-3
2.3b	**Another alternative solution discussed**	52	48	-4
3.1	**Sources used**	90	91	1
3.2a	**Bibliography**	91	86	-5
3.2b	**Sources acknowledged in text**	72	76	4
3.3a	**Sources valid or reliable?**	80	80	0
3.3b	**Evidence for source validity**	22	19	-3
4.1	**SPG / well set out**	83	83	0
4.2	**Technical language and visuals**	69	55	-14

Problem and solutions
Compared to 2009, the data show that candidates are better at explaining precisely what the problem is but still find it more difficult to explain the biology behind it.

Some reports still just posed a question which was very difficult to answer in terms of a solution or providing data. Others described the problem in great detail and often any data and methods related to the problem itself rather than the solution.

This year, students were better at describing what biologists do but they still found it more difficult to be analytical by giving data and explaining why the methods or solutions were effective or appropriate. However, more data was used as part of the discussion of effectiveness. Some reports were still far too descriptive.

Interestingly, there were more reports on diseases or conditions where it was much easier to identify a problem, discuss it and then look at the solutions, ie treatments. In fact, these reports were invariably high scoring ones.

One or two visits were rather descriptive. For example, students might visit a brewery and then write a really interesting account of brewing science without actually identifying any problems that needed solving or looking at any relevant solutions. There were still a few reports on climate change where it was very difficult for the student to come up with any biological solution, let alone any data.

Implications and alternatives
Like last year, many are good at identifying the implications of the methods or solutions employed but are not so good at explaining them. Too many candidates tended to identify the implications associated with the problem itself rather than the solution. Similarly, they still find it more difficult to discuss or explain the advantages or risks and often just gave lists of benefits and disadvantages. Although some still found it difficult to offer and discuss any alternative solutions, an increasing number did manage to discuss two alternative solutions in some detail.

Source material
Students were better at using source material, acknowledging it and giving an opinion on whether their source material was valid. They were still poor at actually giving any evidence for this evaluation although there was at least some considerable improvement compared to 2009.

It needs to be stressed again that the SNAB or Edexcel textbook will not be accepted as the non web source. This is a piece of coursework where one might expect some extra research.

Communication
Most reports were very well written and presented but many were still short of appropriate 'visuals' in the form of graphs, tables etc. Many just had a collection of pictures, not all of them being relevant and this was particularly true for visits.

General

Candidates seemed to tackle this piece of assessment better than in 2009. However, the marks still tended to be centre specific in that where the criteria were studied and adhered to, they generally performed better than those centres where the candidates had very little guidance. Indeed, there is still a minority of centres where very little guidance is being given to the students, making it very difficult for them. Reports that used the criteria as the main focus produced some very good accounts and were often high scoring.

Still too many candidates talked of their 'essay' and it is clear that these centres are still not giving sufficient guidance to the students. This is not an essay; it is an analytical piece of work looking critically at 'How Biologists Work'.

Only 6 reports were potential cases of malpractice where candidates had lifted whole websites or parts of websites and had presented it as their own work. Centres need to be aware that if their students are given a talk and the lecturer has obtained some of the material from the internet, then unless they properly acknowledge this source, a Google search might suggest that the students themselves have obtained this material and presented it as their own! Although cases of suspected malpractice are small in number, centres must remember that they are responsible for their students properly acknowledging source material.

Grade boundaries

Raw mark boundaries

Max Mark	A	B	C	D	E	N
40	34	30	26	22	18	14

Uniform Mark Scale boundaries

Max Mark	A	B	C	D	E	N
60	48	42	36	30	24	18

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