



General Certificate of Secondary Education

Science B 4462 / Biology 4411

BLY1F Unit Biology 1

Report on the Examination

2012 examination – January series

Further copies of this Report are available to download from the AQA Website: www.aqa.org.uk

Copyright © 2012 AQA and its licensors. All rights reserved.

COPYRIGHT

AQA retains the copyright on all its publications. However, registered schools / colleges for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to schools / colleges to photocopy any material that is acknowledged to a third party even for internal use within the school / college.

Set and published by the Assessment and Qualifications Alliance.

Science B / Biology
Foundation Tier BLY1F**General**

There were 8 questions on the paper. Of these, questions 1-5 were targeted at grades E - G and questions 6-8 were targeted at grades C – D. Questions 6-8 were common with the Higher tier paper.

Some command words were not fully understood by significant numbers of students. For example 'Explain' generally means give the reason for, the answer should normally contain link words such as 'because' or 'so that'. 'Suggest' means that there is no unique answer: students are expected to base their answers on scientific knowledge and/or principles.

Many students did not confine their answers to the spaces provided, instead writing in the margins or blank parts of other pages. These portions of the script are not scanned and the examiner may not be able to read what is written there.

Question 1 (Low Demand)

The majority of students correctly matched all four adaptations.

Question 2 (Low Demand)

- (a) It was pleasing to note that the majority of students correctly gave answers such as space, light and water. As usual many gave 'Sun' which is too vague to gain credit. Other vague answers included 'food' and 'soil'.
- (b) Weaker students continue to confuse fertiliser with herbicides.
- (c) A majority of students stated that the animals would have no homes or nowhere to live, but were not able to link these to fewer numbers. Many students gave two similar points, for effect and reason, often repeating the same words. A significant, but small, number wrote about plants and the effect that removing the hedge would have on them. Some gave advantages of a fence, e.g. 'birds like to sit on it'.

Question 3 (Low Demand)

- (a) There was a pleasing improvement in the understanding of these terms. Weaker students continue to confuse asexual with sexual reproduction and characteristic with chromosome.
- (b) A majority of students gained all three marks and almost all gained at least 2 marks for completing the flowchart.

Question 4 (Low Demand)

- (a) Most students were familiar with the effect on the body of diabetes and / or high salt levels, but fewer knew the effect of lack of food.
- (b) Almost all students correctly gave diet and exercise as factors. There were even references to gastric bands and liposuction. Weaker students copied salt intake from part (a).

- (c) A majority correctly worked out the answer to the correct number of decimals but many then rounded to 1 significant place. Others manipulated the equations incorrectly, multiplying rather than dividing. Most students read the table correctly with just a few giving the BMI.

Question 5 (Low Demand)

- (a) (i) The vast majority of students could read the graph correctly.
- (a) (ii) Calculating the proportion proved far more difficult with only a minority of students arriving at the correct answer.
- (b) Almost all students spotted the different pattern.
- (c) Many students gave reasonable suggestions including: the idea of people not being honest when answering questions; the idea that the sample was too small; perhaps selecting people from an area where drugs were common. Unacceptable suggestions included: the idea the sample only contained 15-18 year olds; the study was only done over 6 months.
- (d) Relatively few students gave acceptable reasons including: mental illness; might lead to addictive drugs; 'gateway drug'. Unacceptable reasons included: various types of lung disease; cannabis itself being addictive; illegal; kills brain cells.

Question 6 (Standard Demand)

- (a) About half of the students gained at least one mark for this question. The loss of skin, muscle or flesh were frequently mentioned. Many terms were accepted for the process. These included decay, decomposition, rotting and being eaten. However, disintegrated and dissolved were not accepted. Some students misread the question and gave accounts of the actual formation of fossils, often with very good descriptions of the fossilisation process.
- (b) Almost all students gained at least one mark for this question. Most students used the aquatic feature of the fins / flippers / webbed feet in their response. The terrestrial features of limbs / legs were used with equal frequency. Some students misread the question as 'Suggest why the Tiktaalik was one of the first animals to be able to move onto land.' As a result their answers were related only to terrestrial features. A number of students included features such as gills and ability to breathe out of water in their answers and many related the Tiktaalik to the crocodile/reptiles when describing features.

Question 7 (Standard Demand)

- (a) A majority of students incorrectly chose hypothesis rather than hearsay.
- (b) Very few students understood the idea of experimental control; many of them giving examples of controlled variables. The most common incorrect responses were 'time the feet were in the bowls' and 'the number of people'.

- (c) Good responses to this question included students calculating how many in each group actually eventually ended up having colds rather than just using the values as they appeared in the question. Many students obtained two marks by stating "only some of cold water volunteers caught colds" and "some of other volunteers (wrapped up/no cold water) did catch colds". Many students failed to make a clear distinction between the test group and the control group of volunteers and some seemed to think that all the volunteers needed to catch a cold to prove the advice correct. Some students merely copied the information from the question without making it clear why they had selected this information. Few students noted the small sample size or that the test only lasted 20 minutes.

Question 8 (Standard Demand)

- (a) Many students described actions rather than naming structures; a significant number were triggered to remember words associated with neurone, sensory, motor and relay and these were then scattered amongst the labels. There were lots of wild guesses – ovary, vein, womb, lungs, wrinkles, x-ray. Many focussed on the drawing pin and not where the label was pointing. However, many students identified the muscle but used a variety of spellings: musel, mucel, mucle, mussle. Very few students identified the spinal cord.
- (b) The answers given suffered from a lack of comparison; many students had a good knowledge of the differences between hormones and reflex actions but could not bring the correct information into comparisons; eg 'Reflex actions are quick but hormones work over a long period of time'. 'Many weaker students resorted to describing pain as a major difference. It was common for just a description of a reflex action to be given. Many students stated that hormones work inside the body and reflexes don't. There was a widespread belief that reflexes are triggered by an external stimulus and hormones just happen on their own.

Grade boundary ranges www.aqa.org.uk/gradeboundaries

UMS conversion calculator www.aqa.org.uk/umsconversion