ResultsPlus

edexcel

Examiners' Report
January 2012

GCE Biology 6BI07 01

PEARSON

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications come from Pearson, the world's leading learning company. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information, please call our GCE line on 0844 576 0025, our GCSE team on 0844 576 0027, or visit our qualifications website at www.edexcel.com. For information about our BTEC qualifications, please call 0844 576 0026, or visit our website at www.btec.co.uk.

If you have any subject specific questions about this specification that require the help of a subject specialist, you may find our Ask The Expert email service helpful.

Ask The Expert can be accessed online at the following link:
http://www.edexcel.com/Aboutus/contact-us/

Alternatively, you can speak directly to the subject team at Pearson about Edexcel qualifications. Their contact details can be found on this link:
www.edexcel.com/teachingservices

ResultsPlus

Get more from your exam results

...and now your mock results too!

ResultsPlus is Edexcel's free online service giving instant and detailed analysis of your students' exam and mock performance, helping you to help them more effectively.

- See your students' scores for every exam question
- Spot topics, skills and types of question where they need to improve their learning
- Understand how your students' performance compares with Edexcel national averages
- Track progress against target grades and focus revision more effectively with NEW Mock Analysis

For more information on ResultsPlus, or to log in, visit www.edexcel.com/resultsplus.
To set up your ResultsPlus account, call 0844 576 0024

Pearson: helping people progress, everywhere

Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk .

January 2012

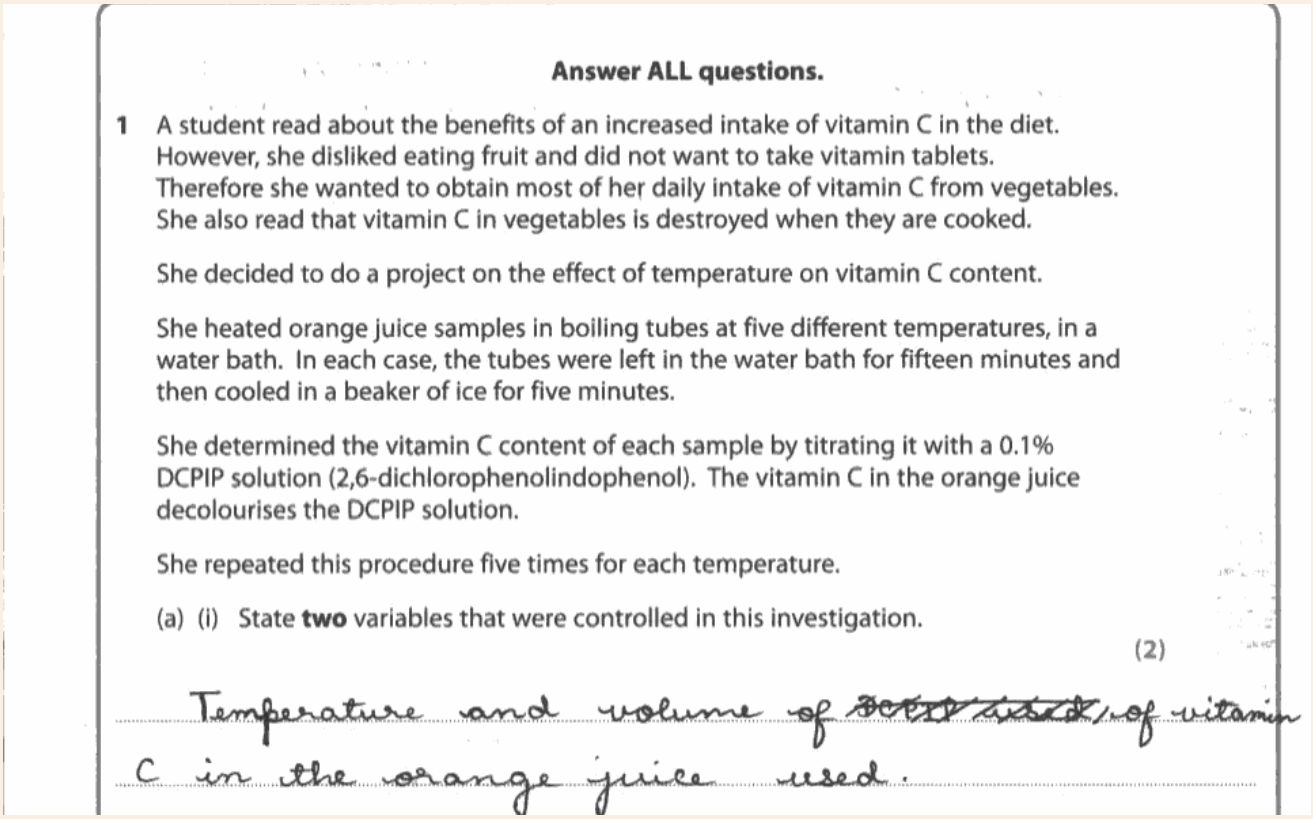
Publications Code US030204

Introduction

There is now a well established pattern to this paper and the impression is that students are improving. This is most evident when they are asked to discuss such things as reliability and validity of data. However, on the down side it is still evident that they are not as familiar with the Visit/Issue criteria as would be ideal for Question 2. Attention is therefore drawn again to page 80 of Issue 4 of the full specification.

Question 1 (a) (i)

This was generally quite well answered, although some failed to realise that they were being asked to list variables which were clearly *already* controlled in the protocol with which they had been presented. This caused them to list here answers which would be appropriate in 1aii.



Answer ALL questions.

1 A student read about the benefits of an increased intake of vitamin C in the diet. However, she disliked eating fruit and did not want to take vitamin tablets. Therefore she wanted to obtain most of her daily intake of vitamin C from vegetables. She also read that vitamin C in vegetables is destroyed when they are cooked.

She decided to do a project on the effect of temperature on vitamin C content.

She heated orange juice samples in boiling tubes at five different temperatures, in a water bath. In each case, the tubes were left in the water bath for fifteen minutes and then cooled in a beaker of ice for five minutes.

She determined the vitamin C content of each sample by titrating it with a 0.1% DCPIP solution (2,6-dichlorophenolindophenol). The vitamin C in the orange juice decolourises the DCPIP solution.

She repeated this procedure five times for each temperature.

(a) (i) State **two** variables that were controlled in this investigation.

(2)

Temperature and volume of ~~DCPIP used~~, of vitamin C in the orange juice used.

ResultsPlus
Examiner Comments

This answer reveals multiple misunderstandings. Temperature is, of course, the IV in this experiment. At this stage in the question it is possible that volume of orange juice might be thought of as a variable that should be controlled, but it is also clear that it had not been from the information in the stem, so cannot be an answer to this question. The answer talks about volume of vitamin C in the orange and thus makes no sense.

ResultsPlus
Examiner Tip

Make a real effort to sort out the different kinds of variables in all of the **nine** core practicals. In each case, where relevant, what is the DV, what is the IV and what might be some control variables of importance?

Answer ALL questions.

1 A student read about the benefits of an increased intake of vitamin C in the diet. However, she disliked eating fruit and did not want to take vitamin tablets. Therefore she wanted to obtain most of her daily intake of vitamin C from vegetables. She also read that vitamin C in vegetables is destroyed when they are cooked.

She decided to do a project on the effect of temperature on vitamin C content.

She heated orange juice samples in boiling tubes at five different temperatures, in a water bath. In each case, the tubes were left in the water bath for fifteen minutes and then cooled in a beaker of ice for five minutes.

She determined the vitamin C content of each sample by titrating it with a 0.1% DCPIP solution (2,6-dichlorophenolindophenol). The vitamin C in the orange juice decolourises the DCPIP solution.

She repeated this procedure five times for each temperature.

(a) (i) State **two** variables that were controlled in this investigation.

(2)

temperature , volume of DCPIP solution

ResultsPlus
Examiner Comments

An answer which has clearly missed the 'were controlled' part of the question and simply stated two relevant variables for this experiment, but failed to answer the question asked.

ResultsPlus
Examiner Tip

Always read questions very carefully, it is the main golden rule for good exam results!

Question 1 (a) (ii)

Having listed appropriate answers in 1ai, some struggled to come up with anything markworthy here.

(ii) Name **one other** variable, in her method, which should have been controlled. Describe how it could have been controlled.

(2)

Variable Concentration of DCPIP

How it could be controlled The Concentration should be the same in all The tubes for determing Vitamin C Content from Each Sample.

ResultsPlus
Examiner Comments

This candidate is naming a variable which *was* controlled and should have been an answer to ai.

(ii) Name **one other** variable, in her method, which should have been controlled. Describe how it could have been controlled.

(2)

Variable volume of DCPIP solution

How it could be controlled To measure the solution with a pipette or burette

ResultsPlus
Examiner Comments

Volume of DCPIP is correct and either of the suggested pieces of equipment would do the job.

Question 1 (b) (i)

(b) The results of her investigation are shown in the table below.

Temperature / °C	Volume of juice needed to decolourise DCPIP / cm³						Standard Deviation (SD)
	1	2	3	4	5	Mean	
20	4.1	4.2	4.2	4.2	4.0	4.1	0.09
23	3.9	3.8	4.0	3.8	3.8	3.9	0.09
30	6.6	6.6	6.1	6.5	6.6	6.5	0.22
40	7.4	7.1	7.1	7.1	7.0	5.99 7.14	0.15
50	8.5	8.5	8.4	8.5	8.3	8.4	0.09

(i) Complete the table by calculating the mean volume of juice, kept at 40 °C, needed to decolourise DCPIP. Show your working.

ResultsPlus
Examiner Comments

Many candidates, like this one, failed to notice that they were asked to 'complete the table', a clear instruction that should have indicated the number of decimal places to which the mean should be quoted.

Temperature / °C	Volume of juice needed to decolourise DCPIP / cm³						Standard Deviation (SD)
	1	2	3	4	5	Mean	
20	4.1	4.2	4.2	4.2	4.0	4.1	0.09
23	3.9	3.8	4.0	3.8	3.8	3.9	0.09
30	6.6	6.6	6.1	6.5	6.6	6.5	0.22
40	7.4	7.1	7.1	7.1	7.0	20.5	0.15
50	8.5	8.5	8.4	8.5	8.3	8.4	0.09

ResultsPlus
Examiner Comments

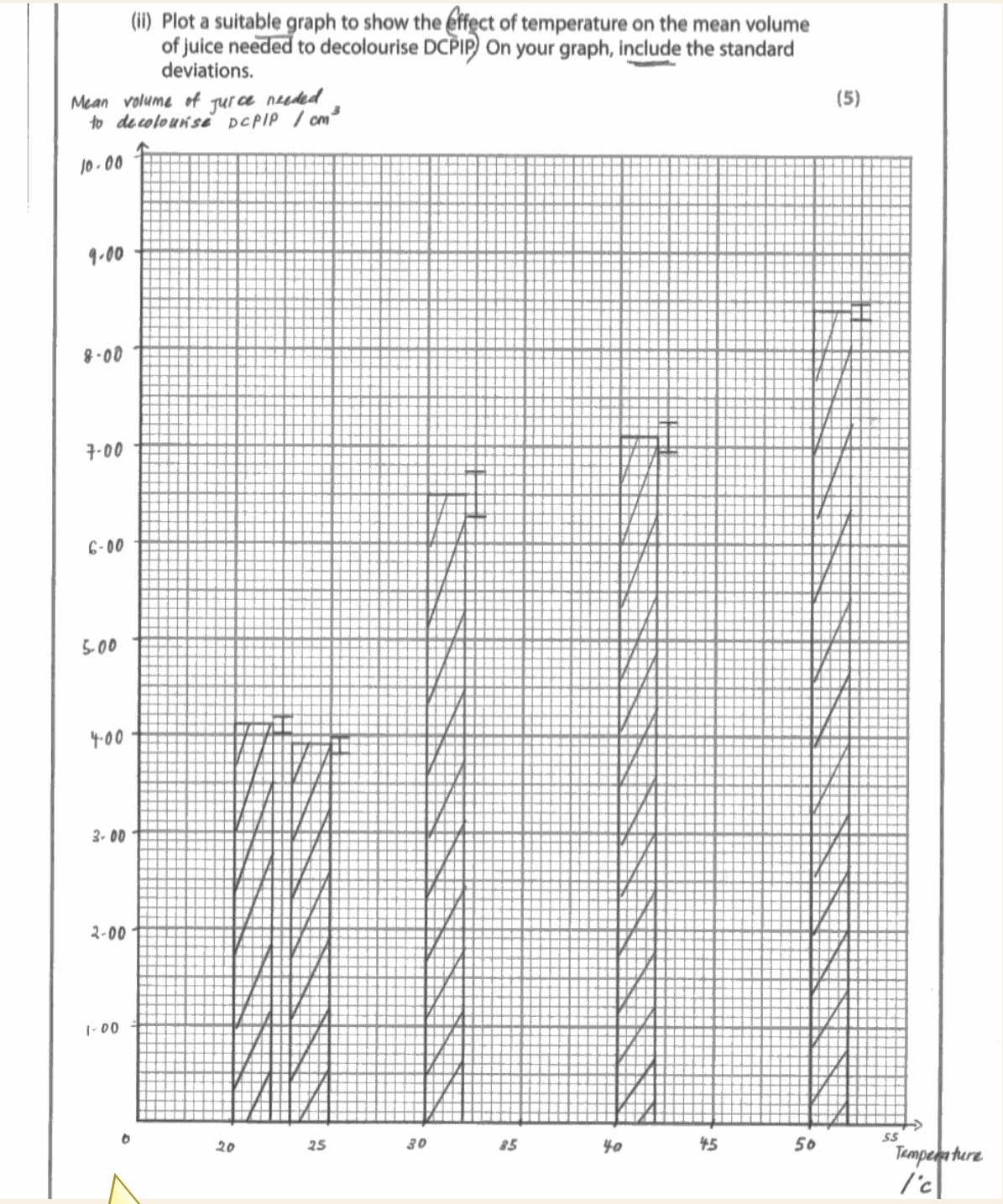
This answer received one mark because the calculation was set out correctly, although executed wrongly. This shows the value of the instruction 'show your working' to candidates.

ResultsPlus
Examiner Tip

Always show your working in calculation questions.

Question 1 (b) (ii)

Candidates have, in the past, been given standard deviations in data tables. This is the first time, however, that they have been asked to plot them. The response to this was quite good, but the most common incorrect answer was simply to not attempt it.

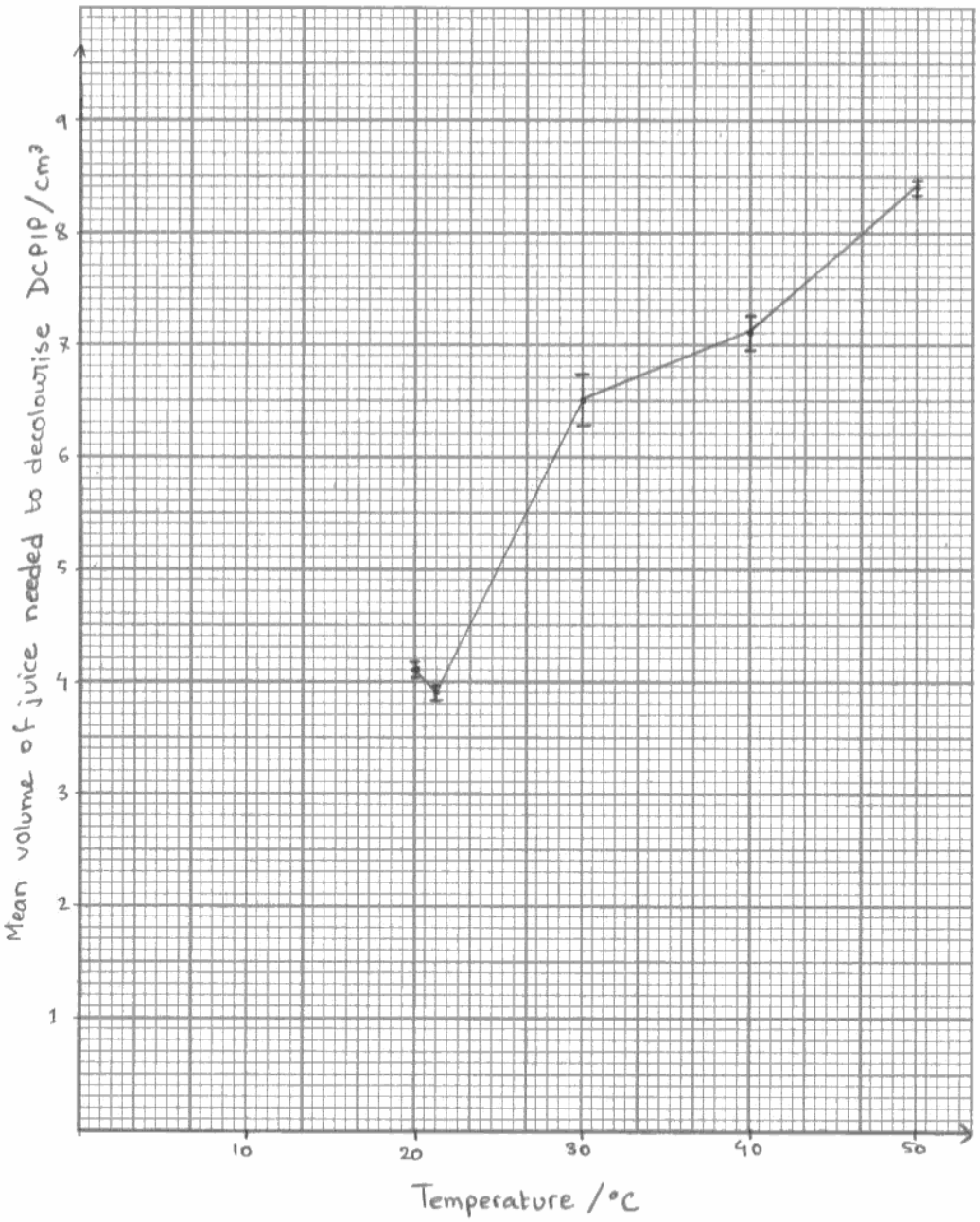


ResultsPlus
Examiner Comments

This illustrates how the mark scheme is designed to give the maximum number of marks possible, even when the wrong graph type has been chosen. In most cases a bar chart would gain a maximum of three. It would, of course, lose the S mark (for style) as the chart is inappropriate for this data. In this case, however, it does get the plot mark by having the 23 C bar in the right place. Most candidates positioned it equidistant from 20 and 30.

(ii) Plot a suitable graph to show the effect of temperature on the mean volume of juice needed to decolourise DCPIP. On your graph, include the standard deviations.

(5)

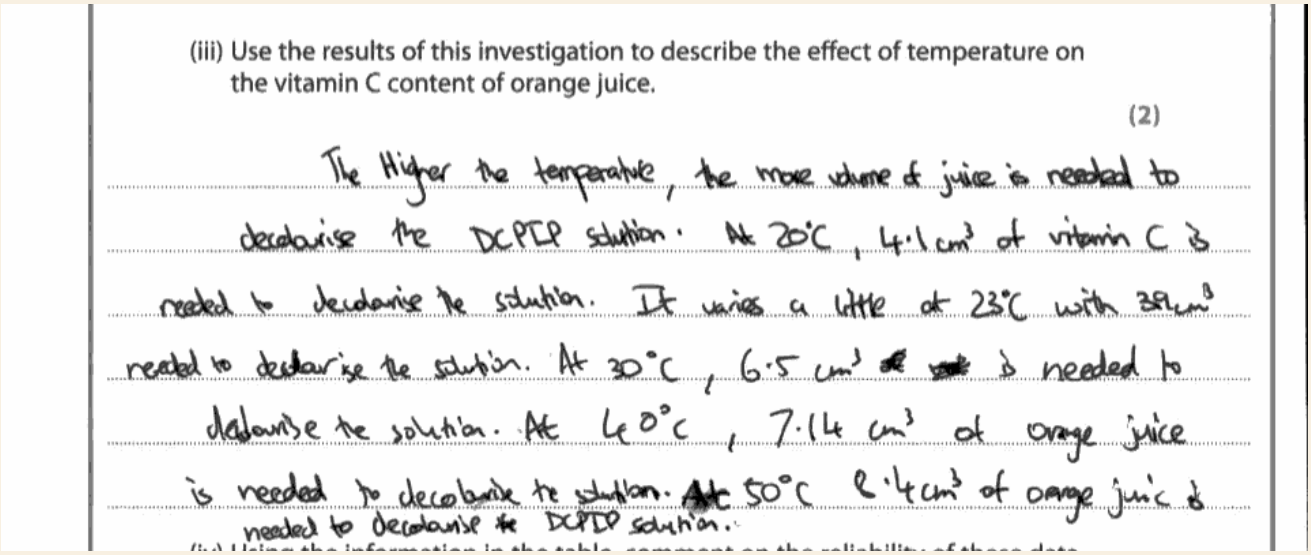


ResultsPlus
Examiner Comments

An excellent, clear 5 mark answer is shown here. Four marks were more common, with the fifth mark being lost due to a failure to plot the standard deviations. It was quite common for the bars to be assymetrical.

Question 1 (b) (iii)

In this data description question is was disappointing to see many candidates still quoting data rather than manipulating it to make the point.



(iii) Use the results of this investigation to describe the effect of temperature on the vitamin C content of orange juice.

(2)

The Higher the temperature, the more volume of juice is needed to decolorise the DCPIP solution. At 20°C, 4·1 cm³ of vitamin C is needed to decolorise the solution. It varies a little at 23°C with 3·9 cm³ needed to decolorise the solution. At 30°C, 6·5 cm³ is needed to decolorise the solution. At 40°C, 7·14 cm³ of orange juice is needed to decolorise the solution. At 50°C 8·4 cm³ of orange juice is needed to decolorise the DCPIP solution.

ResultsPlus
Examiner Comments

This candidate displays a misunderstanding of what is required in this type of question. Specifically, it fails to address the question about Vitamin C content and simply quotes volumes of juice added. More generally, it quotes data at length, when one simple *manipulation* would have gained the mark.

ResultsPlus
Examiner Tip

In data description questions, marks will be awarded for correct data manipulation.

(iii) Use the results of this investigation to describe the effect of temperature on the vitamin C content of orange juice.

(2)

As the temperature increases the volume of juice needed to decolourise DCPIP solution also increases, except when temperature was raised from 20°c to 23°c. Thus, it can be seen that an increase in temperature causes a general decrease in vitamin C content of orange juice. A 30°c rise in temperature almost doubles the volume of orange juice required to decolourise DCPIP solution. Temperature has a significant effect on vitamin C content of orange juice.

ResultsPlus
Examiner Comments

This answer shows that an increase in volume added is indicative of a decrease in Vitamin C content. It also goes some way toward the second mark by performing a manipulation, but fails in that it quotes the result in terms of 'about double'. Manipulations must be correct to gain the marks.

ResultsPlus
Examiner Tip

When you are asked to describe some data, do a manipulation, and make sure that the manipulation is mathematically correct, and has units, (where applicable).

Question 1 (b) (iv)

Centres seem to be preparing candidates well for this type of question on Standard Deviation (SD) and data reliability. This is improved from previous years.

(iv) Using the information in the table, comment on the reliability of these data.

(2)

~~The table is reliable because there are~~

The table is reliable because :

- there are repeats

- The standard deviation are not overlapping

ResultsPlus
Examiner Comments

This answer makes the mistake that repeating ensures reliability. There is another mistake made, which shows that candidates may be attempting to apply things they have seen from previous mark schemes. The overlapping of SDs is not relevant in this case where the question does not ask about confidence in conclusions.

ResultsPlus
Examiner Tip

DO make full use of past papers and mark schemes but DO NOT expect to be able to transfer answers from old papers onto the one you are doing without some careful thought.

(iv) Using the information in the table, comment on the reliability of these data.

(2)

The reliability of the data is good because the standard deviation values are low. There are different values of standard deviation hence there is a different level of reliability for each temperature. The level of reliability is the same at 20 °C, 23 °C, and 50 °C because the standard deviation value is the ~~same~~

ResultsPlus
Examiner Comments

A simple understanding that the SD is a measure of reliability and then some specific detail, as here, was all that was required for the two marks.

Question 1 (c) (i)

In the past candidates have not performed well at comparison type questions. They have performed better in this session, however a problem did emerge in which, although a comparison was made, it was not the one asked for.

(c) To check the validity of her results, she found some data about the effects of cooking on fresh vegetables.

The data are shown in the table below.

Vegetable	Percentage loss of vitamin C due to cooking (%)
Soko (*Celosia argentea*)	38
Tete (*Amaranthus hybridus*)	35
Cassava (*Manihot esculenta*)	30
Okra (*Hibiscus esculentus*)	36

(i) Compare these data with those that the student obtained in her study and comment on the validity of her results.

(3)

~~The vitamin content of~~ - The vitamin C content of vegetables is not fully destroyed due to cooking.

~~- Different percentage loss of vitamin C~~

- Different type of vegetables have differs in percentage loss of vitamin C due to cooking.

- There must be ~~is~~ loss of ~~e~~ vitamin C content while cooking vegetables.

- The caseva has the least percentage loss of vitamin C due to cooking compare to others.

- There is difference in vitamin C content in every vegetables.

(ii) Suggest what further information she would need in order to make a valid

ResultsPlus
Examiner Comments

This was a typical answer, in which the candidate has noted that a comparison is asked for. However, they have failed to notice that the comparison that is needed is between the student's data and that quoted from the literature.

(c) To check the validity of her results, she found some data about the effects of cooking on fresh vegetables.

The data are shown in the table below.

Vegetable	Percentage loss of vitamin C due to cooking (%)
Soko (*Celosia argentea*)	38
Tete (*Amaranthus hybridus*)	35
Cassava (*Manihot esculenta*)	30
Okra (*Hibiscus esculentus*)	36

No temp more valid?

(i) Compare these data with those that the student obtained in her study and comment on the validity of her results.

(3)

The students results are more valid than these results. ~~Her~~ The students data included the temperature at which the orange juice was heated, however this data doesn't contain this, therefore all different vegetables could've been cooked at a different heat. The student used the same fruit for ~~their~~ their study, whereas the data above is using different vegetables which may have different vitamin C contents ~~to begin with~~ before being heated.

ResultsPlus

Examiner Comments

In this answer the student has again understood that a comparison is needed. However, on this occasion they have failed to compare data but made an inappropriate attempt to compare methodology.

Question 1 (c) (ii)

(ii) Suggest what further information she would need in order to make a valid comparison of her results with these published data.

(2)

(i) She must carry out experiments on other fruits but orange, ~~and her~~

(ii) She must find out the loss of Vit-C after heating her juice solutions, than she must measure how much juice is used up to decolourise DCPIP.

(Total for Question 1 = 20 marks)

ResultsPlus
Examiner Comments

This answer shows a misunderstanding of the question. It seems to be answering a question which asked what further experiments the student might do.

(ii) Suggest what further information she would need in order to make a valid comparison of her results with these published data.

(2)

- Temperature at which the vegetables were cooked.
- The time for which they were cooked.

ResultsPlus
Examiner Comments

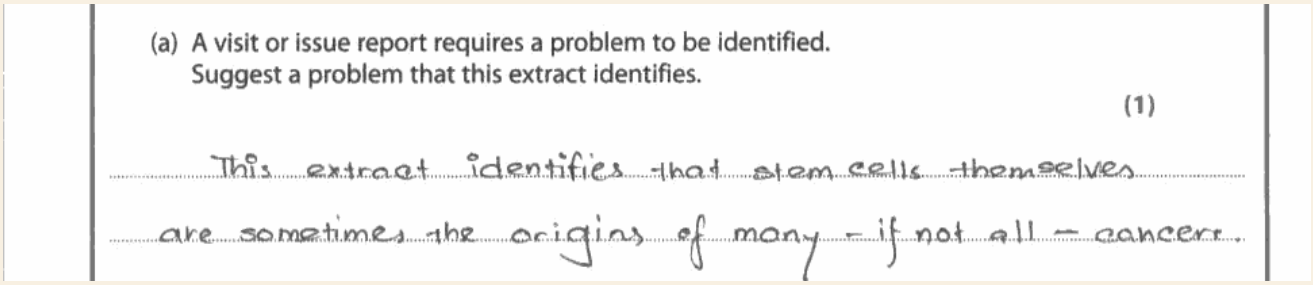
This is what is required. Two well thought out pieces of information, which the student knew from their own investigation but not from the published data.

ResultsPlus
Examiner Tip

Keep it in simple bullet points, as attached.

Question 2 (a)

Centres are strongly reminded that this question is trying to assess those skills which are needed for the writing of a Visit/Issue report and, therefore, attention is drawn once again, to the criteria for that on page 80 of the full specification.



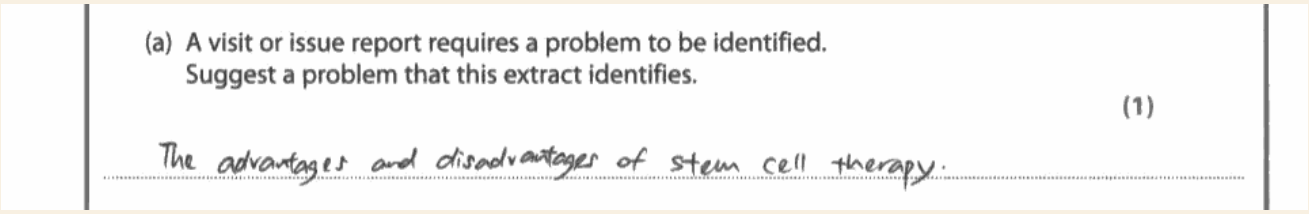
(a) A visit or issue report requires a problem to be identified.
Suggest a problem that this extract identifies.

(1)

This extract identifies that stem cells themselves are sometimes the origins of many - if not all - cancers.

ResultsPlus
Examiner Comments

This candidate has not understood the nature of a problem in the context of a Visit/Issue report. Many candidates made this mistake and ended up being too narrow in their focus.



(a) A visit or issue report requires a problem to be identified.
Suggest a problem that this extract identifies.

(1)

The advantages and disadvantages of stem cell therapy.

ResultsPlus
Examiner Comments

The answer here is straightforward and recognises the overall subject matter of the report.

Question 2 (b)

(b) The student intended to include a flow diagram showing the details of the *ex situ* project described in paragraph 3.

Which of the visit or issue assessment criteria, A, B, C or D, listed below, would the flow diagram address? Explain your answer.

A. Describe the biological methods and processes involved in producing data or solutions to problems

B. Identify two implications (ethical, social, economic or environmental) of the applied biology encountered

C. Use information or arguments obtained from three or more sources

D. Evaluate at least two references used in the report

(2)

Criterion A

Explanation This will help the readers to realise the significance of ex situ project as described in paragraph 3

ResultsPlus
Examiner Comments

This gets the mark for A but the explanation bears no relation to the criterion A.

(2)

Criterion A

Explanation Paragraph 3 includes the techniques on how to find a solution to conserve the rare species of mosses.

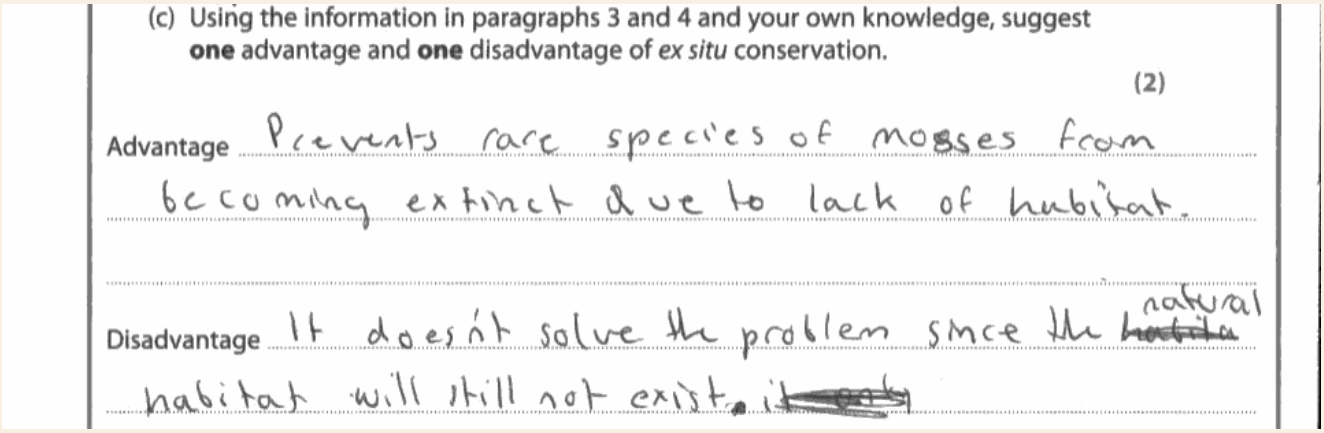
ResultsPlus
Examiner Comments

This comment relates to this and the other exemplar for this question.

ResultsPlus
Examiner Tip

Many candidates, as these two, were able to identify A as the correct alternative, but not to give a markworthy explanation as to why they thought this.

Question 2 (c)



(c) Using the information in paragraphs 3 and 4 and your own knowledge, suggest **one** advantage and **one** disadvantage of *ex situ* conservation.

(2)

Advantage Prevents rare species of mosses from becoming extinct due to lack of habitat.

Disadvantage It doesn't solve the problem since the ~~habitat~~ natural habitat will still not exist. it [illegible]

ResultsPlus
Examiner Comments

A simple, straightforward two mark answer.

Question 2 (d) (i)

This question proved to be one of the most discriminating on the paper. Candidates who were able to boldly state that neither set of evidence was useful in supporting the statement, easily gained two marks. Many were not, however, able to do this. There was far too much uncertainty and vacillation. This should be discouraged.

(i) Discuss the usefulness of these sources of evidence as support for the statement in paragraph 12.

(4)

These sources of evidence as support for the statement in paragraph 12 will increase the reliability of the report. Based on source A, majority of the people, about 62% finds that medical research using stem cells obtained from death embryos and the death penalty are morally acceptable, only 30% finds that it is morally wrong and 8% ~~does not respond~~. has no respond. Whereas for gambling and, 63% of the people ~~abortion~~ accepts it but majority of the people, about 48% finds that abortion is morally wrong. Based on source B, majority of the people either from a catholic or non-catholic background finds that medical research using stem cells, death penalty are gambling are morally wrong, with highest percentage ~~of~~ of 72% on gambling from the catholics and 68% on death penalty from the non-catholics. Only about 40% minority groups finds abortion is morally wrong.

ResultsPlus

Examiner Comments

This is a common response to questions which involve discussion of data. The candidate has quoted it all back to the examiner, without any attempt to **discuss** what it shows, or be in any way selective. This response falls foul of both problems and gains no marks. There is no attempt to answer the question asked.

(4)

- Source ~~is~~ A ~~[illegible]~~ shows how many ~~pe~~ people agree with the use of embryos for ~~re~~ research
- but it does not specify the views of religeous ~~pe~~ people. Hence its ~~not~~ useless.
- Source B shows the views of religeous people on the matter of use of embryos for result ~~but~~
- but does not show how many agree and ~~an~~ how many disagree. Hence it is useless.

ResultsPlus

Examiner Comments

This answer does manage to hit all four mark points, and shows logic. It gives two good reasons why neither set of data is much use for the report's purpose.

Question 2 (d) (ii)

Many candidates were able to gain two marks on this question by suggesting the use of a bar chart and describing how they would implement this form of presentation. Few, however, gained the third mark by suggesting which data should be included on the chart, despite two clues in the question which should have told them that it would not be all the data. The first sentence says *some* of the data was presented by the student and the second asks about ways of presenting the *relevant* data.

(ii) The student presented some of these data in a visual form.

Describe how the relevant data in source A and source B could be presented in a suitable visual form.

(3)

A bar chart is drawn ~~for~~ The x-axis will be ~~the issues, the y-axis will be~~ the ~~the~~ percentage of people. ~~For each issue, four bars are drawn for~~ morally acceptable, morally wrong, catholics and non-catholics. and the y-axis will be the percentage. The data will be based on the issue of 'medical research using stem cells obtained from human embryos'.

ResultsPlus
Examiner Comments

This is quite a rare full mark answer which names the right kind of graph, describes it adequately and makes it clear that only some of the data would be presented.

(ii) The student presented some of these data in a visual form.

Describe how the relevant data in source A and source B could be presented in a suitable visual form.

(3)

It shud be explained in terms of how it shud be carried out, the effects, advantages and disadvantages. The purpose of these experiments must be stated clearly and the results both positive and negative must be made known.

ResultsPlus
Examiner Comments

Question 2 will often have a section which asks for a description of a 'visual'. This is very much in the context of Visit/Isuue criteria which state that candidates should 'communicate clearly, concisely and logically with appropriate use of visuals'. A minority do not understand what a visual is in this context, as here.

Question 2 (e) (i)

This was correct by most of the candidates.

(e) A visit or issue report should identify two of the following implications: ethical, social, economic or environmental.

The student found the information shown in the table below.

Research area	Cost of research in 2009 / millions of dollars
Parkinson's disease	162
Cancer	5629
Stem cell research	1044
Transplantation	571

(i) Which of these implications is addressed by the information in this table?

(1)

Parkinson's disease. / Ethical

ResultsPlus
Examiner Comments

A rare incorrect answer.

Question 2 (e) (ii)

This question was very well answered by almost all candidates.

(ii) State the paragraph number where this table should be included.

(1)

Between paragraph 10-11

ResultsPlus
Examiner Comments

A rare incorrect answer.

Question 2 (e) (iii)

(iii) With reference to Parkinson's disease in paragraphs 6 and 9, suggest how stem cell therapy may affect the cost of research into this disease.

(3)

From paragraphs 6 and 9, it could be seen that stem cell therapy provides big hope for Parkinson's patients as it could be cultured correctly into dopamine producing nerve cells, and replace the lost stem cells. It ~~stands~~ seems to have a greater chance of success in curing Parkinson's disease using stem cells.

ResultsPlus
Examiner Comments

This candidate has not really understood what they are being asked to do. There is no reference to cost in the answer given, even though it has been highlighted. This is a common occurence.

(iii) With reference to Parkinson's disease in paragraphs 6 and 9, suggest how stem cell therapy may affect the cost of research into this disease.

(3)

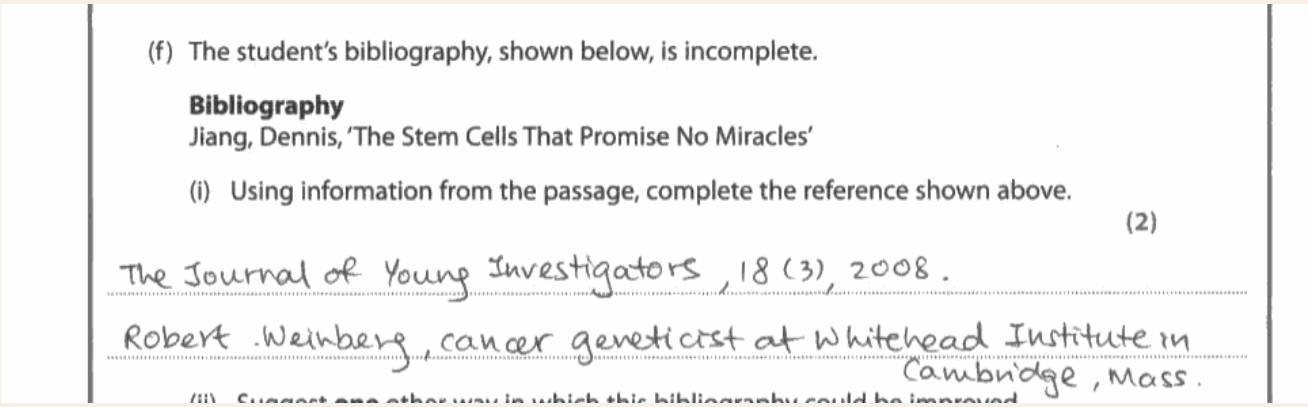
- ~~The stem cell therapy can lower the costs lowwar the cost~~
- The cost of research can ~~ca~~ go up due to stem cell therapy as ~~as~~ the scientists need more research to find ~~out~~ and ~~experiment~~ carry out trials on patients to see if it works. This costs more money, but if it is found as a cure, the ~~cost~~ of money spent on research can go down.

ResultsPlus
Examiner Comments

This answer made the correct points that costs would rise initially, and later fall. This would gain two marks. For the third mark, if candidates alluded to the rise being due to the cost of stem cell *research, then they would receive the third mark.* This example said just enough to do that, even though poorly expressed.

Question 2 (f) (i)

Most candidates gained marks on this question.



(f) The student's bibliography, shown below, is incomplete.

Bibliography
Jiang, Dennis, 'The Stem Cells That Promise No Miracles'

(i) Using information from the passage, complete the reference shown above.

(2)

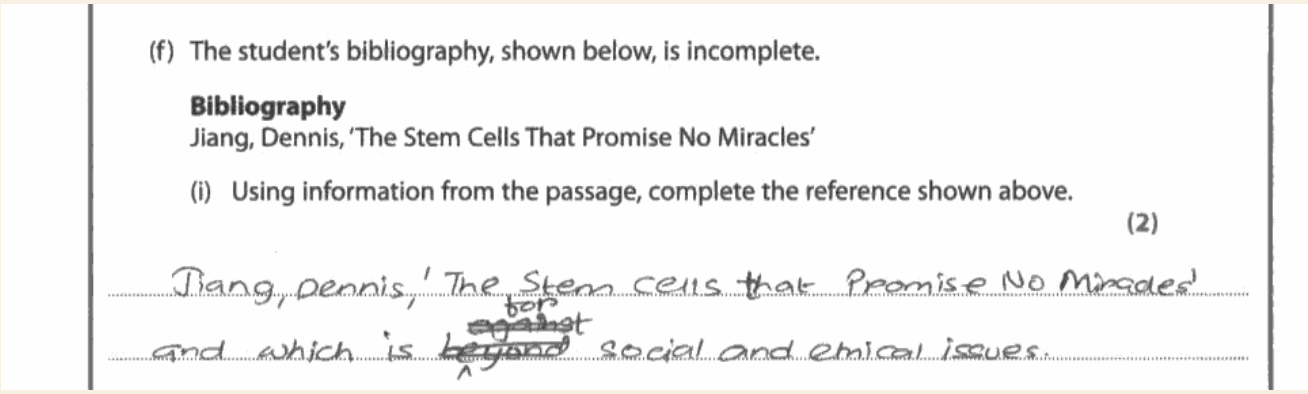
The Journal of Young Investigators, 18 (3), 2008.

Robert Weinberg, cancer geneticist at Whitehead Institute in Cambridge, Mass.

(ii) Suggest one other way in which this bibliography could be improved

ResultsPlus
Examiner Comments

One error which was quite common was the inclusion of superfluous material, which was usually the name of Robert Weinberg, as here. This answer gained only one mark.



(f) The student's bibliography, shown below, is incomplete.

Bibliography
Jiang, Dennis, 'The Stem Cells That Promise No Miracles'

(i) Using information from the passage, complete the reference shown above.

(2)

Jiang, Dennis, 'The Stem Cells that Promise No Miracles' and which is ~~beyond~~ for ~~against~~ social and ethical issues.

ResultsPlus
Examiner Comments

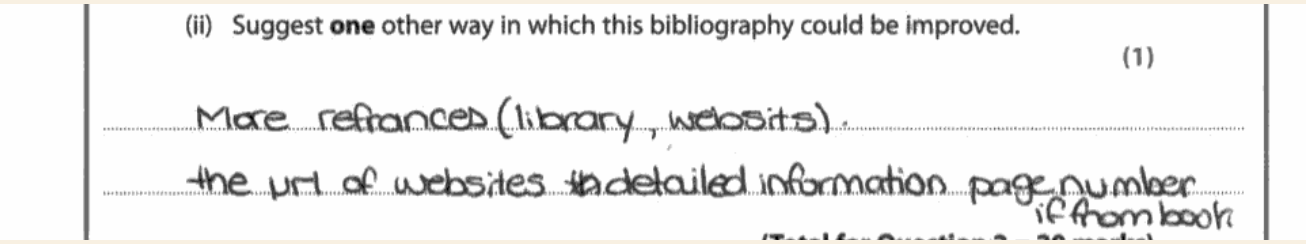
A minority of candidates did not understand the instruction to complete the reference, as this one here.

Question 2 (f) (ii)

There were two routes to the one mark in this question. Candidates could either note that the one reference given was incomplete and suggest the addition of page numbers or suggest that there was much in the report which was said but not referenced. They would then briefly suggest how this could be done.

Centres are reminded that the assessment of this question is based on the criteria and support materials for the Visit/Issue report, viz:

'bibliography' given ie. most details of source, author, data, pages used,


(ii) Suggest **one** other way in which this bibliography could be improved.

(1)

More refrances (library, websits).

the url of websites to detailed information page number if from book.

ResultsPlus

Examiner Comments

This candidate has the right idea that more references are needed but it is too vague to be worth the mark. The allusion to page numbers is not in the right context.

Paper Summary

In order to improve their performance, candidates should:

Read all the information given in the questions very carefully, it is there for a purpose.

Always manipulate data in questions asking you to describe a trend from a graph, table etc. Do not just quote figures. Make sure any manipulation is mathematically correct and with units, if appropriate.

Thoroughly review all core practicals. Be clear about all the details and implications of each. Question 1 will always be based on one of these.

Review your understanding of basic experimental design. Be clear about the different types of variables (IV, DV etc.).

Make sure you understand how to write references properly.

Be very clear that you understand what we mean by economic, environmental,

social and ethical implications of biology.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:

http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

Further copies of this publication are available from
Edexcel Publications, Adamsway, Mansfield, Notts, NG18 4FN

Telephone 01623 467467
Fax 01623 450481
Email publication.orders@edexcel.com
Order Code US030204 January 2012

For more information on Edexcel qualifications, please visit
www.edexcel.com/quals

Pearson Education Limited. Registered company number 872828
with its registered office at Edinburgh Gate, Harlow, Essex CM20 2JE

Ofqual

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Rewarding Learning