



Pearson
Edexcel

Examiners' Report

Principal Examiner Feedback

November 2020

Pearson Edexcel GCSE

In Combined Science (1SC0) Paper 2BF

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. 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 our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

November 2020

Publications Code xxxxxxxx*

All the material in this publication is copyright

© Pearson Education Ltd 2020

Introduction

Paper 1SC0/2BF was taken by candidates doing GCSE combined science. It was taken as part of a linear assessment model at the end of the course. The paper consists of 60 marks assessed by a mixture of different question styles, including multiple-choice, short answer and extended open-response questions. Candidates are expected to answer all questions in 1 hour and 10 minutes. In the extended open-response question, marks are also awarded for the ability to structure a response logically; these questions are marked with an asterix (*). In addition, the specification assesses practical knowledge and maths skills in the examination papers. There are six mandatory core practicals in the specification that candidates must complete prior to the examination. Candidates have to use their knowledge and understanding of these practical techniques and procedures in the written assessments. Aspects of working scientifically are also assessed throughout the paper.

The paper contained questions assessing the content from Topic 1 and Topics 6 to 9. These included cells, the heart and blood vessels, endocrine glands, feeding relationships between organisms, biodiversity and photosynthesis. Questions based on practical work included sampling techniques, determining the number of organisms in a given area and devising a plan to investigate the effect of a given factor on the rate of photosynthesis.

The maths skills assessed in this paper included calculating BMI, calculating a mean and calculating a percentage difference.

Comments on individual questions are given below.

Question 1

Only a relatively small proportion of candidates could draw arrows on Figure 1 to show the flow of oxygenated blood through the heart, or correctly link two structures of the heart to their functions. Many candidates knew that veins prevent backflow, but they did not always explain how valves help the blood to flow towards the heart; it is important that candidates check command words and respond appropriately. However, it was pleasing to note that the majority of candidates could state why dissecting equipment should be put into disinfectant.

Question 2

This question was about feeding relations between organisms. The majority of candidates could complete at least one of the sentences correctly in 2(a), but only a very small proportion could name the relationship between the oxpecker and the zebra in 2(c)(i). The food chain was completed more successfully, but a surprising number of candidates did not start the food chain with grass. In some instances the food chain was completed back-to-front. Candidates showed that they could describe the difference between two sets of data, but not all of them produced a quantitative answer.

Question 3

In general, this question was answered well. The majority of candidates could correctly sequence the steps used to set up a pitfall trap and complete the tally chart. Most candidates showed good maths skills by correctly stating the probability of selecting an ant, but they found the describing how to estimate the number of snails in a given area much more challenging. It is appreciated that some candidates will not have had first-hand experience of this fieldwork technique, but laboratory simulations can be used to demonstrate the general procedure.

Question 4

Candidates found the section on endocrine glands and hormones difficult, but it was pleasing that the majority could calculate BMI correctly and describe at least one lifestyle change that a person should make to help control blood glucose concentration. Explaining the trend in the data shown in Figure 9 was an accessible question for most candidates, although many candidates wrote detailed descriptions, instead of attempting to link information together and give at least one explanation for the trend shown. Again, it is important that candidates check command words and understand what they mean.

Question 5

The majority of candidates found it difficult to apply their knowledge of the function of stomata to the first part of the question, or to describe how sugar is transported in plants. This highlights the importance of learning about plant structures and their functions very thoroughly. In 5(c)(i) and 5(c)(ii), many candidates wrote at length about the non-indigenous lily plant covering the surface of a lake and how the biodiversity of the lake would be affected. However, as in Question 4, there were few substantial explanations of the situations. Consequently, candidates did not score well on the last parts of this question.

Question 6

Candidates showed that they knew how to calculate a mean, but a surprising number miscounted the number of starch grains in potato cells P, Q and R, resulting in an incorrect answer. Calculating a percentage difference really challenged many candidates and only a relatively small proportion scored at least one mark. It is important for candidates to learn the principles of this mathematical skill, so they can be applied in a range of different situations. Only a small proportion of candidates could correctly state at least one variable that should have been controlled in the investigation. This highlights the importance of reading the information given in the question and giving careful consideration to the variables that could be involved.

The extended open-response question asked candidates to devise a plan to investigate the effect of light intensity on the rate of photosynthesis. Most candidates showed some awareness of the relevant core practical and could state some relevant procedural points. However, many plans were confused and incomplete; they would have benefitted greatly from a logical, step-by-step approach. In addition, the instruction to include variables to control was seemingly ignored by many candidates.

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom