



Pearson

Examiner's Report Principal Examiner Feedback

Summer 2018

Pearson Edexcel GCSE
In D&T: Resistant Materials (5RM02/01)

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General comments

It is apparent that a number of candidates may have self-limited their opportunities to access marks through an insufficiently close reading of the questions, several specific examples are found on the question comments below.

In addition to the apparent inaccuracy in question reading another common issue was that candidates were too repetitive in their responses. If a question mentions points in the stem, then candidates should expect that simple repetition is not sufficient to obtain mid to high level marks. Points raised in the question stem should be expanded upon through explanation or similar. In addition, in extended responses candidates should be aware that repeating the same point in different language will not attract additional marks. In order to gain high marks, candidates should aim to make the same number of individual and distinct points as there are marks available.

Below are question specific comments, these comments begin with question 11. Feedback is not provided for the multiple choice question component.

Comments on Individual Questions:

Q11(a)(i) Most candidates missed the point of this item stating the box was used for administering first aid rather than the contents of the box. This is suggestive of a lack of close reading of the question.

Q11(a)(iii) A large number of candidates made reference to scoring or marking a line but failed to make reference to a parallel edge.

Q11(a)(iv) It was obvious that few centres teach casting using a cope and drag. Many candidates did not appear to be able to access this question.

Q11(b)(i) This question was reasonably well answered with the most popular answers relating to "Hardness", "toughness" and "smoothness" the most common wrong answers were "cheap" and "strong", this has been consistent throughout the lifespan of this specification.

Q11(b)(ii) A large number of candidates failed to discuss the Health and Safety risks; instead discussion tended towards control measures. All of the candidates that had attempted this question answered with popular responses relating to "dust in eyes" and "dust inhaled" as well as "cutting yourself on saws" and "grazes/scratches from sander".

Q11(b)(iii) Candidates showed limited knowledge of man made boards. A large number of candidates made reference to cost, rather than about the comparison between two man made boards. There were some responses relating to the smooth and textured sides of hardboard though these were few.

Q11(c)(i) Candidates responded well, often opting for plastic dip coating and galvanizing as the two most popular responses.

Q11(c)(ii) This question was very well answered with a lot of candidates making reference to rusting, and the product being made aesthetically appealing to potential customers.

Q12(a) Candidates appear to enjoy this question, and many answer in a positive way. Lots of marks can be achieved although there were still a lot of responses repeated in the second design.

Most students mentioned materials such as acrylic and HIPS, but many said wood or metal and did not specify a particular material. There were a number of candidates who gave inappropriate manufacturing methods for a school workshop; stainless steel being welded was a common incorrect response. Many did not understand that the second design had to be completely different with different answers.

On the other hand, there were exceptionally good responses that covered the spec points well in both designs.

Q13(a)(i) This question was attempted by most candidates and answered well with answers "Hard" and "toughness". The most common wrong answer was "durable".

Q13(a)(ii) Good response and many candidates knew the difference between the metals, and the advantages of carbon steel. Some candidates responded with bending and breaking, rather than focusing on the main purpose of the part: to sharpen pencils.

Q13(b) This question was generally answered quite well, and the most common answer related to making it harder. However, this question showed that many candidates had some understanding of the process of heat treating metals, particularly tempering and case hardening.

Q13(c)(i) Candidates struggled to explain one reason. Instead, candidates mentioned, or listed, a number of reasons, but failed to give a justification. Too often the stem of the question was repeated within their answer.

Q13(c)(ii) Those candidates that did not repeat the stem of the question, and attempted an answer, usually scored well.

Q13(d) The responses to this question were generally consistent and achieved the middle to higher end of the marks.

Some responses were not particularly well written with poor grammar and punctuation.

The most popular answers included waste collection, different sized holes, grips for holding and the size of the sharpener. Many students could relate to this item

and used their own knowledge to answer the question. However, some candidates simply stated the differences or described the pencil sharpeners without exploring them further.

Q14(a) This question was not answered well, due to many candidates having a poor understanding of what GRP is. Many candidates provided wrote answers that related to glass, or talked about control measures.

Q14(b) This question was generally attempted and most candidates achieved 1 out of the 2 marks. The common limiting factor was that candidates generally forgot to mention the improved properties of the composite material. Quite a few candidates had clearly confused the words "composite" and "compostable" which led to many wrong answers.

Q14(c) Some correct properties were named, but there was often a wrong explanation of that property, particularly with tough, durable and hard. The most popular correct answer gave light weight and the manoeuvrability that this allowed.

Q14(d) Many candidates scored one mark fairly well, with an advantage or two, but far fewer were able to clearly explain that advantage.

Q14(e) On the whole this question was not particularly well answered. Most responses included references to lightweight and faster, but candidates failed to expand on how this had affected sporting performance which was clearly required to access the full range of marks for this question.

Durability, whether resistance and long lasting, were popular, and, protection and moulded, were mentioned on a few occasions. There were answers that covered a lot of the indicative content, however, links to F1 and motor racing were most common.