OCR GCSE GATEWAY CHEMISTRY A · J248

# CHEMISTRY



## MARK SCHEME

### HOW SCIENCE WORKS

| SCORE | PERCENTAGE |
| --- | --- |
| /4 | % |

STEMUP

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| Question | | | Answer/Indicative content | Marks | Guidance |
|---|---|---|---|---|---|
| 1 | | | **any one benefit from:**<br>idea of increasing food supply / bigger crop yield / produce bigger plants / plants grow faster (1)<br><br>**and**<br><br>**any one problem from:**<br>harms or death of aquatic organisms / eutrophication / pollution of water supplies / produces an algal bloom (in rivers) (1) | 2 | **allow** replace essential elements / replace nitrogen / replace potassium / replace phosphorus / replace nutrients / replace minerals<br>**allow** fertilisers contain nutrients / contain vital minerals<br>**allow** to make more money<br><br>**ignore** to make plants grow / to help plants grow / to produce better crops<br>**ignore** makes plants healthier<br>**not** kills weeds / kills pests<br><br>**allow** contamination of water supplies<br>effect organisms in river is **not** sufficient<br>washed into rivers is **not** sufficient<br><br>**Examiner's Comments**<br><br>Many candidates were able to give a benefit and a disadvantage of using fertilisers. The idea that plants grow faster or give a greater crop yield was well known. Other candidates referred to the presence of extra plant nutrients. In terms of disadvantages candidates often used the term eutrophication or described some of the processes involved with eutrophication. It was not sufficient to describe that fertilisers could be washed away. A common misconception was that fertilisers kill other animals on the crop and act as pesticides. |
| | | | **Total** | **2** | |

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| Question | | | Answer/Indicative content | Marks | Guidance |
|---|---|---|---|---|---|
| 2 | | | any two from:<br><br>to see if the perfume is toxic / poisonous (1)<br><br>to see if the perfume irritates the skin (1)<br><br>so the perfume can be approved by government (1) | 2 | to check for side effects is **not** sufficient<br><br>**allow** whether the person is allergic (to perfume)<br>**allow** harmful to the skin / gives a reaction with the skin<br>**allow** to see if it is corrosive / too acidic<br><br>**allow** is it harmful, is it dangerous or is it safe if no other mark has been awarded<br><br>**ignore** references to the perfume having a pleasant smell<br><br>**ignore** references to whether they wash away or<br>dissolve in water<br><br>Examiner's Comments<br><br>Many candidates were able to give one reason often relating to either toxicity or irritation of the skin. A common misconception was to refer to the smell of the perfume when the question was asking about testing before the perfume could be permitted to be used. |
| | | | Total | 2 | |

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