

**GCSE Chemistry B (Twenty First Century Science)**  
**J258/02** Depth in chemistry (Foundation Tier)

**Question Set 30**

- 1 A company sets up three monitoring stations to measure the concentration of sulfur dioxide in the air around a coal-fired power station.
- (a) Why does the company set up three monitoring stations rather than only one? [1]
- (b) There is a motorway with a lot of traffic near the power station.  
The company makes sure that the monitoring stations are **not** set up near the motorway.
- (i) Explain **one** reason why this is important. [2]
- (ii) Suggest **one other** factor the company should consider when deciding where to set up the monitoring stations. [1]
- (c)\* The power station burns the same amount of coal every day.

The table shows the mean concentration of sulfur dioxide in the air and the weather conditions near the power station over 6 days.

Day	Mean concentration of sulfur dioxide in the air (g/m <sup>3</sup> )	Weather conditions
Monday	24	dry, sunny, no wind
Tuesday	24	dry, cloudy, no wind
Wednesday	13	dry, windy
Thursday	15	light rain, no wind
Friday	9	light rain, windy
Saturday	3	heavy rain

Describe how the concentration of sulfur dioxide in the air changes over the week, and suggest reasons for the changes.

Use the information in the table to support your answer.

[6]

**Total Marks for Question Set 30: 10**

---

# OCR

Oxford Cambridge and RSA

## **Copyright Information**

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website ([www.ocr.org.uk](http://www.ocr.org.uk)) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge