

SPECIMEN

GENERAL CERTIFICATE OF SECONDARY EDUCATION

GATEWAY SCIENCE

B713

SCIENCE B

Unit B713: Science controlled assessment: Analysis and evaluation

Controlled assessment Candidate answer booklet – Part 3: Analysis and evaluation

Candidates answer on this answer booklet

OCR Supplied Materials:

None

Other Materials Required:

- Graph paper
- Calculator
- Written work from Part 1 and Part 2

Candidate Forename			Candidate Surname				
Centre Number					Candidate Number		

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer all the questions.
- Attach to this booklet: your research (Part 1 of the task)
 your plan for the investigation and your results (Part 2 of the task)

INFORMATION FOR CANDIDATES

- Your quality of written communication is assessed in questions marked with a pencil ().
- You may use a scientific calculator.
- You are advised to show all the steps in any calculations.
- The total number of marks for the task is 48.
- This document consists of 4 pages. Any blank pages are indicated.

Skill quality	Max	Mark
Researching	6	
Planning	6	
Collecting data	6	
Managing risk	6	
Processing data	6	
Analysing and interpreting	6	
Evaluating	6	
Justifying a conclusion	6	
TOTAL	48	

Coolants

A scientist wants to find out why the amount of coolant used by nuclear power stations depends on the concentration of salt in the water.

1	Process the data you have collected and plot a graph to show the results of your investigation.
2	Describe any patterns or trends in your results. Comment on any unexpected results.
3	Compare the data on specific heat capacities of sea water and fresh water from your research (Part 1) with the results of your own investigation (Part 2).
	Comment on any similarities and differences. Suggest possible reasons for any differences.

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5	Do your results from Part 2 support the hypothesis suggested by the scientist? Explain your answer.
6	Nuclear power stations use more coolant when the concentration of salt in the water is higher. Suggest why.
7	The Government is considering building more nuclear power stations. These will need access to
•	water for cooling. From your research (Part 1) and investigation (Part 2), describe the advantages and disadvantages of building them by lakes or the sea.



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