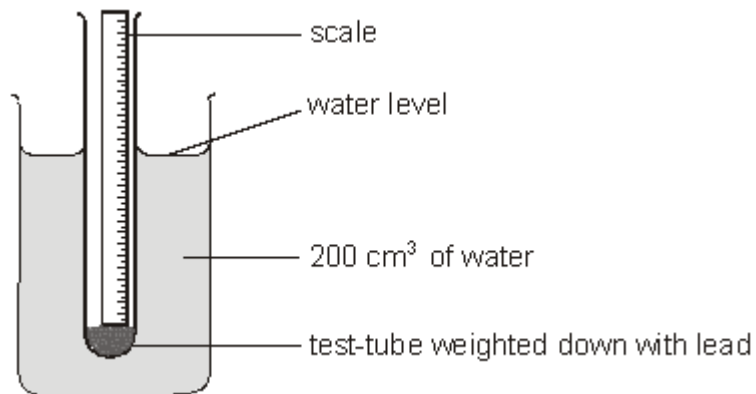


**Ocean's deep end of unit test – skill section**

Abi investigated how adding salt to water affects the way an object floats.

She used the apparatus below.



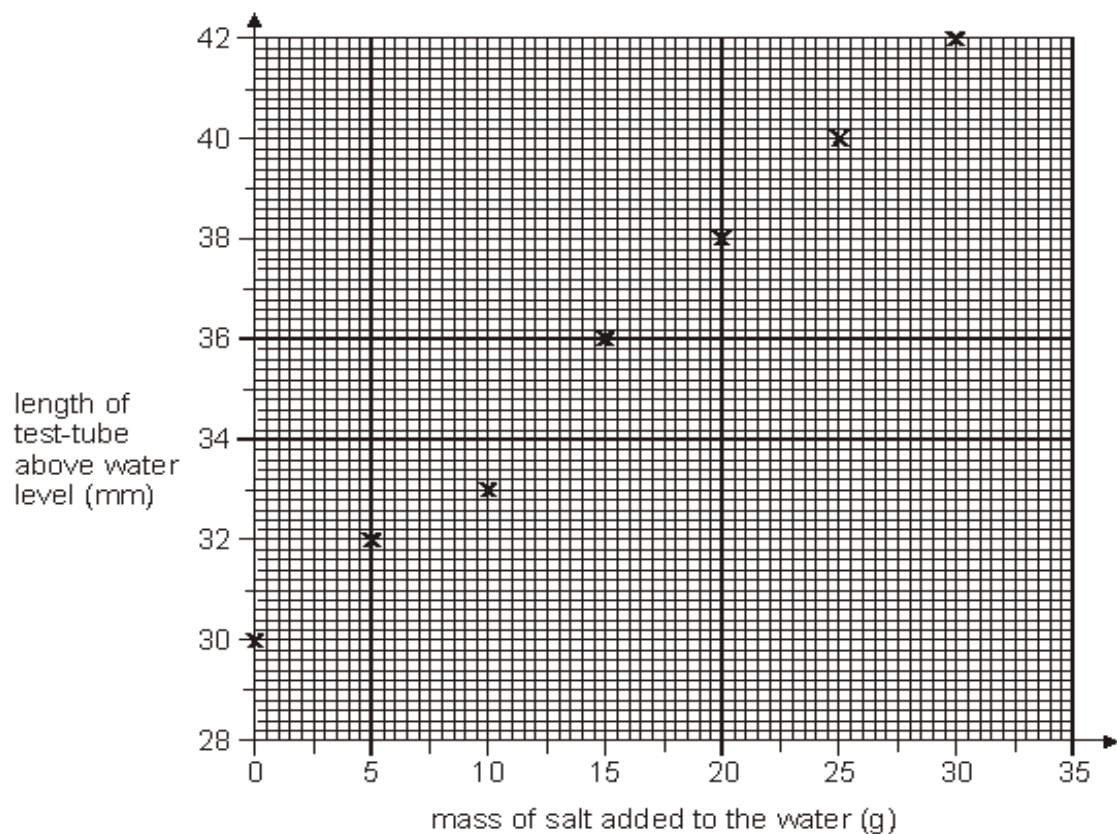
She used a scale inside a test-tube to measure the length of the test-tube above the water level.

- (a) What factor did Abi change as she carried out her investigation (the independent variable)?

.....

1 mark

- (b) Abi plotted her results on a graph.



(i) **On the graph**, circle the result which does **not** fit the pattern.

(ii) **Draw** a line of best fit on the graph.

(iii) Suggest **one** reason for this result.

.....  
.....

3 marks

(c) Abi said she should repeat the measurement that does **not** fit the pattern.  
Robert said there is **no** need to repeat this measurement.

Who do you agree with?  
Tick **one** box.

Abi...

Robert...

Explain your answer.

.....  
.....  
.....

1 mark

(d) Abi and Robert wrote the conclusions listed below.

Look at the graph of their results and tick whether each conclusion is **true** or **false** or whether you **cannot tell**.

| <b>conclusions</b>   | <b>true</b>              | <b>false</b>             | <b>cannot tell</b>       |
|--|--------------------------|--------------------------|--------------------------|
| The more salt added, the higher the test-tube floats in the water.                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The length of the test-tube is 8 cm.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| When 10 g of salt is added, the length of the test-tube above the water will be 34 mm. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Doubling the amount of salt doubles the length of the test-tube above the water.       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2 marks  
maximum 7 marks