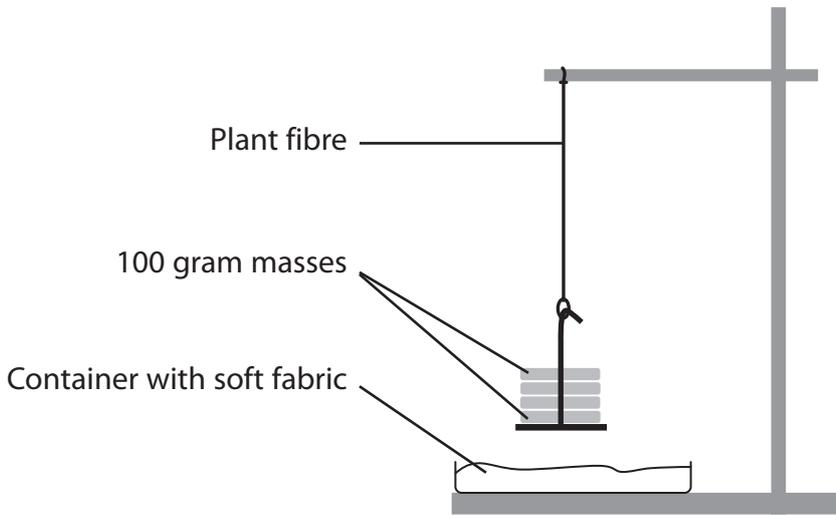


7 The diagram below shows a technique used by a student to investigate the mass needed to break dry plant fibres. In this investigation, 100 gram masses were added until the fibre broke.



(a) The student carried out the investigation four times to achieve reliable results.

(i) Suggest **three** factors that would need to be kept constant in this investigation.

(3)

- 1 .....
- 2 .....
- 3 .....

(ii) Describe how the results obtained would be processed to produce a mean.

(2)

- .....
- .....
- .....

(b) Suggest why increasing the mass by 50 grams each time, rather than 100 grams, could increase the accuracy of the student's results.

(1)

- .....
- .....



(c) The diagram shows a container with soft fabric in it. Suggest the safety role of this container.

(1)

(d) This student also investigated the mass required to break four samples of an oil-based plastic fibre.

The table below shows the data the student collected for the plastic fibre.

Sample	Mass required to break the plastic fibre / g
1	13 300
2	2 300
3	13 600
4	13 600
Mean	13 500

(i) The student calculated the mean using only three of the results from the table.  
Explain why the mean for the plastic fibre was calculated using only these three results.

(1)

(ii) Suggest why the use of oil-based plastic fibres such as nylon, rather than plant fibres, does not contribute to sustainability.

(2)

(Total for Question 7 = 10 marks)

