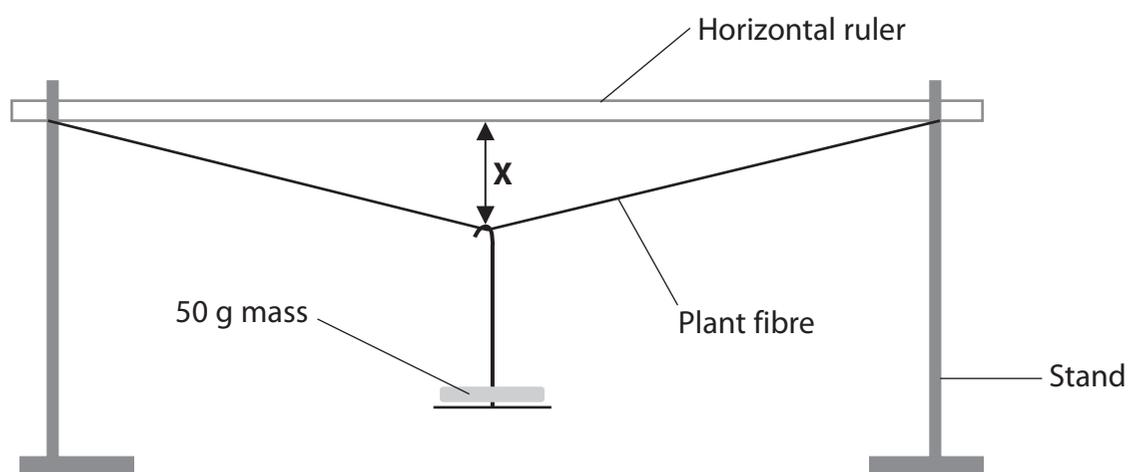


- 5 (a) A student used the apparatus shown in the diagram below to investigate the tensile strength of plant fibres.



She added a 50 g mass to the middle of the fibre and measured distance **X**. She repeated this by adding additional 50 g masses.

The results are shown in the table below.

| Mass / g | Distance X / cm |
|----------|-----------------|
| 0 | 0 |
| 50 | 2 |
| 100 | 4 |
| 150 | 5 |
| 200 | 5 |
| 250 | Fibre broke |

- (i) Describe the effect on distance **X** of increasing the mass.

(2)

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(ii) Another student thought that the data did not show the mass needed to break the fibre. He suggested that it could be anywhere between 200 g and 250 g.

Suggest how a more accurate result could be determined.

(2)

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(b) Suggest how you would use this apparatus to enable a valid comparison of the tensile strength of fibres from two different plants.

(5)

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(Total for Question 5 = 9 marks)

