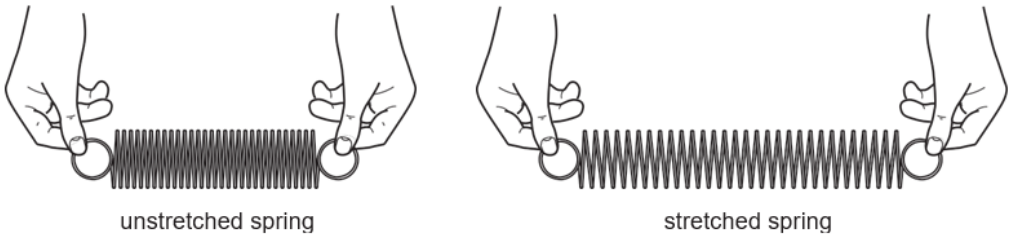
OCR
Oxford Cambridge and RSA

GCSE Physics B (Twenty First Century Science)

J259/01 Breadth in Physics (Foundation Tier)

Question Set 21

1 Sundip wants to use a spring to make a device to measure forces. She picks up a spring and stretches it.



(a) Explain why Sundip is wrong.

[2]

(b) Sundip investigates the extension of identical springs when different forces are applied.

The table shows her results.

Force (N)	Extension (cm)	Type of deformation
1.0	2.5	elastic
2.0	5.0	elastic
3.0	7.5	elastic
4.0	10.5	elastic
5.0	14.0	elastic
6.0	18.0	plastic
7.0	25.0	plastic

Sundip comments on her data in the table.

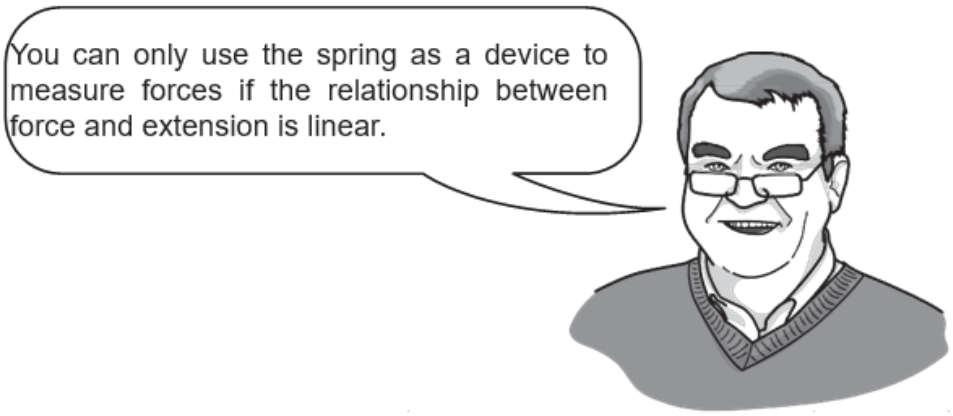
(i) Describe what is meant by plastic deformation.

[1]

(ii) Explain why Sundip is correct.

[1]

(c) Sundip's teacher looks at her data in the table.



(i) Describe what is meant by a **linear relationship**.

[1]

(ii) Identify the maximum force for which the spring shows a linear force-extension relationship.

Use the data in the table to explain your answer.

[2]

Total Marks for Question Set 21: 7