



Your teacher may watch to see if you can:

- make accurate measurements.

**Aim**

To find out if all materials stretch in the same way.

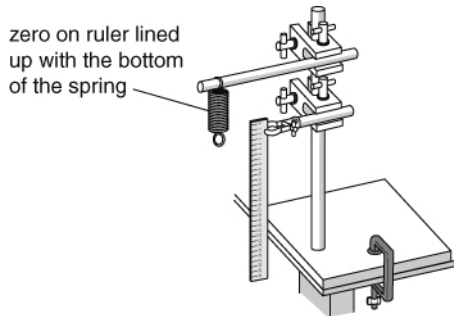
**Introduction**

You are finding out if the results for the different materials show the same *pattern*, not comparing *how far* each material stretches.

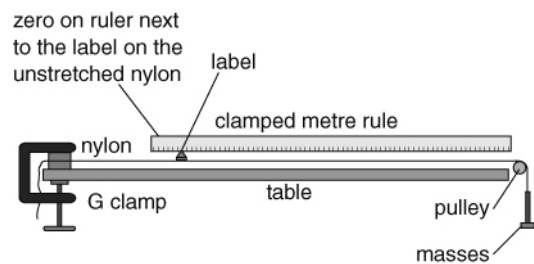
The apparatus you need depends on how stretchy the material is that you are testing.

**⚠** Put a box of crumpled newspaper beneath the weights so they cannot fall on your feet.

This apparatus is the simplest to use:



This apparatus is better if the material you are testing does not stretch very much.



**Hypothesis**

1 Write a hypothesis that you can test.

**Planning**

2 Write a method for your investigation. You will need to think about these things:

- Which materials will you test?
- What masses will you need?
- How will you stay safe while you are carrying out your investigation?
- Will you need to repeat any measurements?

3 Make a table ready for your results.

4 Show your method to your teacher before you start.

**Recording your results**

5 Record your results in your table and plot a scatter graph to show your results. Draw a curve of best fit on your graph. (This is a smooth line that goes through as many points as possible.)

**Considering your results/conclusion**

- 6 a Describe the shape of the line on the graph for each material that you tested.  
b Do the graphs for all the materials show the same pattern?

7 Write a conclusion for your investigation.

8 Was your hypothesis correct?

**Evaluation**

9 Are there any results that are not on the lines on your graphs? If so, why do you think this happened?

10 If you had time to do your investigation again, could you improve it? Explain how.

**I can...**

- plan a safe and fair investigation
- make and record observations
- present data in an appropriate graph
- draw conclusions from evidence.