Stretching forces

You need to know that: when springs and elastic bands are stretched they exert a force on whatever is stretching them.

Your task

Aim: To investigate what happens when elastic bands and springs are stretched and to measure the forces involved using a Newton Meter.(Copy this aim into your science books).

You will need: a spring or elastic band, a ruler with mm, a Newton meter and a length of string.

You will need to fix your spring or elastic band firmly at one end to the leg of a table.

Next, hook the Newton meter to the other end and slowly stretch the spring or elastic band, measuring the force in nektons, for every 1cm of stretch.

Record your **results** in a table like the one below:

Distance stretched (cm)	Force (N)
0	
1	
2	
3	
4	
5	
6	
7	
8	

Under the heading **Method**, write 4 sentences describing what you did, draw a labelled diagram to show this.

Under the heading **Conclusions**, write down what you found out about what happens when springs or elastic bands are stretched.

Draw a detailed diagram of a Newton meter.

Extension challenge

Plot a line graph using your results table to show how the distance your spring/elastic band stretched changed as the force increased.

Recording Sheet (stretching forces)

Aim: We wanted to find out what happens when _ _ _ _ _ _ _ and elastic _ _ _ _ _ are stretched and to measure the forces with a _ _ _ _ _ _ meter.

Method: We fixed our spring/elastic band to a table _ _ _ and hooked a Newton meter to the other end. Next we _ _ _ _ _ _ _ _ _ the spring/elastic band and measured the force for every 1cm of stretch.

Results:

Distance stretched (mm)	Force (N)
0	
1	
2	
3	
4	
5	
6	
7	
8	

Conclusion: We found out that when a spring or elastic band is stretched it _ _ _ _ _ against whatever is stretching it. We measure forces using _ _ _ _ _ _ _.

Word Bank

pull springs stretched

bands leg Newton