

Aim: The aim of this investigation is to find the **mathematical relationship** between the **length of the stretched rubber band** and the **distance it travels**.

Independent variable	
How will you change this variable?	
Give reasons as to why the range of values was suitable	

Dependent variable	
How are you measuring this variable?	

Control Variables	Describe how this will be controlled to ensure accuracy

Method:

1. Create a small notch at the end of a plastic 30cm ruler.
2. Align the end of the 30cm ruler with the end of the desk.
3. Hook one end of the rubber band over the end of the ruler and into the notch
4. Pull the other end of the rubber band back 9cm (accounting for zero error).
5. Release the rubber band.
6. Measure from directly below the release point to the furthest most point of the elastic band using a measuring tape.

7. Record this distance in the table.
8. Repeat steps 2-7 with the following pullback distances: 12cm, 15cm, 18cm, 21cm.
9. Repeat this experiment three times or until 3 consistent results are obtained for each value of the independent variable.

Data

Pullback distance (cm)	Distance travelled (m)			
	Trial 1	Trial 2	Trial 3	Average
9	3.47	3.33	3.31	3.4
12	4.41	4.26	4.53	4.4
15	5.68	5.72	5.66	5.7
18	6.77	6.91	6.83	6.8
21	7.98	7.9	7.65	7.8

Draw a Graph for the above data. Insert an equation for the straight line. Make sure the axis starts at 0.

Analysis: What relationship do you see between the independent and dependent variable. Explain this in terms of the straight line equation

Conclusion:

- How did you avoid zero error?
- How did you avoid Parallax error?

- How did you ensure the reliability fo your result?
- List 2-3 science points in your experiment..