

2.3. Hooke's Law

1. In this exercise, you will measure lengths and calculate weights and extensions. You will present the results in a table and as a graph. You should upload the table and the graph to the moodle task.

TITLE

First of all, choose a title for the experiment. Here are some options.

- *springs*
- *lengths and extensions*
- *Hooke's law*
- *a practice*
- *forces*
- *.....*



AIM

2. Sentence fragments are given under column A and column B. Match them in order to write the aims of the experiment:

column A	column B
<i>To determine</i>	<i>a graph with the computer.</i>
<i>To calculate</i>	<i>the validity of Hooke's law.</i>
<i>To represent</i>	<i>weights.</i>

EXPERIMENTAL SETUP

3. Draw the experimental setup and write the name of the equipment you need:

meter – weights – spring – retort stand – a weight holder - clamp – ...

PROCEDURE

1. To start with, hang the weight holder and submit the spring to no stress. Determine the original length ($l_0 = \dots\dots\dots$).
2. A mass ($m_1 = \dots\dots\dots$) is insert using the weight holder and measure the final length ($l_1 = \dots\dots\dots$).
3. Add a second mass ($m_2 = m_1 + \dots\dots\dots = \dots\dots\dots$) and measure the final length ($l_2 = \dots\dots\dots$).
4. Repeat this step and write all the values on the next table.

Mass (g)	Length (cm)

5. Using the computer (calc/excel), calculate forces (weights) and extensions (Δl).
6. Plot a graph of F against Δl .

CONCLUSION

Is it valid the Hooke's law?

