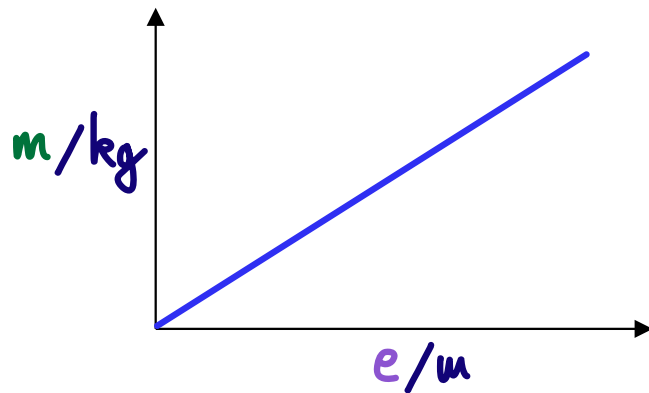




# Young Modulus - Results

$$m = \frac{E \pi d^2}{4 g L} e$$



**Method 1:** A horizontal copper wire was loaded. The extension was measured with a ruler to the nearest millimetre.

Original length: **2.320 m**

Average diameter of wire: **0.19 mm**

**Method 2:** A vertical steel wire was loaded. The extension was measured using Searle's apparatus to the nearest 0.01 of a millimetre.

Original length: **0.987 m**

Average diameter of wire: **0.55 mm**

Method 1 - Copper	
Mass / kg	Extension / mm
0.000	0
0.050	0
0.100	1
0.150	1
0.200	2
0.250	2
0.300	2
0.350	3
0.400	4
0.450	4
0.500 *	7

Method 2 - Steel	
Mass / kg	Extension / mm
0.000	0.00
0.500	0.09
1.000	0.21
1.500	0.26
2.000	0.42
2.500	0.50
3.000	0.59

\* The copper wire snapped when 0.550 kg added.

