



DRAWING GRAPHS 4

In each of the following investigations:

- Identify the independent variable.
- Identify the dependent variable.
- Plot a graph of the dependent variable on the vertical axis against the independent variable on the horizontal axis.
- Describe the relationship between the independent and dependent variables

1 - Investigating the stretch of a spring

A pupil carried out a series of experiments to see how changing the mass hung on a spring affects how far it stretches. Her results are shown below.

mass (g)	0	100	200	300	400	500
stretch (cm)	0	2.0	3.8	6.1	8.0	10.1

2 - Investigating the time it takes to drive along a road

A pupil measured how long it took a car to drive from one end of a road to another at different speeds (measured in kilometres per hour (km/h)). Her results are shown below.

speed (km/h)	10	20	30	40	50	60	70	80
time (seconds)	80	40	27	20	16	13	11	10

3 - Investigating the solubility of copper sulphate in water

A pupil carried out a series of experiments to see how temperature affected the solubility of copper sulphate. He measured the temperature at which certain amounts of copper sulphate just dissolved in 10 cm³ of water. His results are shown below.

mass of copper sulphate (g)	1	2	3	4	5	6	7	8
temperature (°C)	none seen	20	45	60	70	79	90	98

4 - Investigating the digestion of starch

A pupil carried out a series of experiments to see how temperature affects how quickly starch is digested by enzymes. In digestion it is turned to glucose. He measured the speed of digestion in grams of starch digested per minute. His results are shown below.

temperature (°C)	10	20	32	40	49	60	71	80
speed of digestion (g/min)	0.40	0.80	1.50	3.30	1.95	0	0	0