Analysing Investigations – Answers

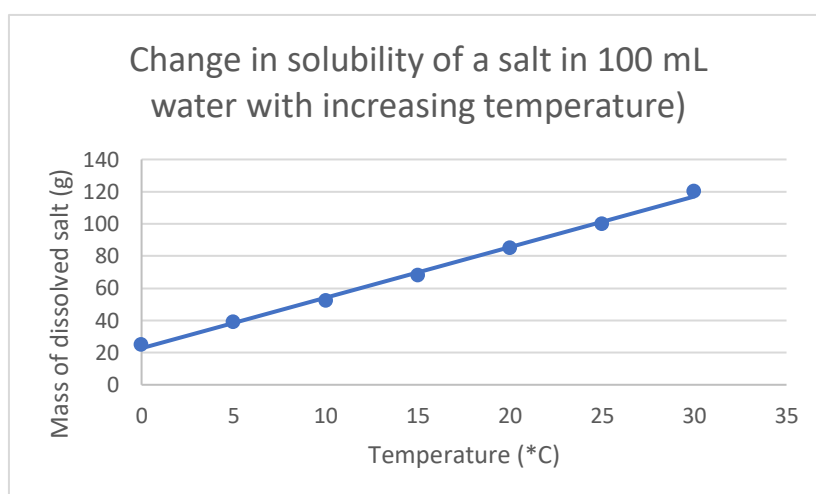1.

Term	Meaning
1. Variable	H. Something that can be changed in an experiment
2. Dependent variable	I. The variable that is measured in an experiment
3. Independent variable	E. The variable that is deliberately changed in an experiment
4. Controlled variables	C. The variables that must be kept constant in an experiment
5. Sample size	B. The number of plants, animals or other items used in an experiment
6. Reliability	G. Whether the experiment produces similar results when it is repeated
7. Accuracy	A. How exact the measurements are in an experiment
8. Validity	D. Whether the experiment tests what it is supposed to test
9. Trial	F. Name given to each repetition of an experiment

2.

Hypothesis	Independent variable	Dependent variable	Controlled variable(s)
Plants grow faster when it is hot	Temperature	Plant growth (e.g. height of plants)	- type of soil - type of plant - same volume of water - length of growing time
Exercise increases breathing rate	Amount of exercise (e.g. exercise vs rest)	Breathing rate	- same person before and after exercise - type of exercise - length of exercise
Sugar dissolves faster in hot water than cold water	Temperature of water	Mass of sugar that dissolves	- same volume of water - same mass of sugar - same amount of stirring
The more you water plants, the faster they grow	Volume of water given to plants	Plant growth (e.g. height of plants)	- type of soil - type of plant - same temperature - length of growing time

3a.

Change in solubility of a salt in 100 mL water with increasing temperature)

3b. 80 g

3c. 130 g

Note that when you are asked to use a graph to predict a value, you MUST extend the line on your graph.