

AS 90930 Carry out a practical chemistry investigation, with direction

Credits 4 (Internal) Literacy Activity

Achievement	Achievement with Merit	Achievement with Excellence
Carry out a practical chemistry investigation, with direction.	Carry out an in-depth practical chemistry investigation, with direction.	Carry out a comprehensive practical chemistry investigation, with direction.

Below is a list of the things you will need to be able to understand if you are to gain the best results you can on this standard. You probably won't need to know every single thing but they have all been included anyway. Read through the list and **highlight** the technical words.

- Carry out a practical chemistry investigation, with direction.
- Can write the aim of the investigation (given on task sheet)
- Can write a plan (from general method & experience gained in trials) with a step-by-step procedure
- Can create a range of at least FOUR different values of
 - Temperature (e.g. using water baths)
 - Concentration (e.g. by making dilutions)
 - Surface area (e.g. by cutting up the material in some way)
- Can identify the independent variable
- Can identify the dependent variable
- Can identify variables to control to keep the same (to make it a fair test)
- Can prepare a results table with appropriate units
- Knows what is meant by accuracy
 - how it can be increased
 - can justify choices made to increase accuracy
- Knows what is meant by reliability
 - how it can be increased by repeat trials – usually original experiment AND 2 repeats
 - by spotting obviously anomalous results / outliers
- Can convert minutes to seconds if needed
- Can average data from repeat trials
- Can see a trend or lack of a trend in numerical data
- Can plot an appropriate graph (optional) to better see a trend or lack of a trend in numerical data
 - Evenly spaced labelled axes
 - Line of best fit or smooth curve if appropriate (Not “join the dots”)
 - Can identify obviously anomalous results / outliers
- Can write a conclusion
 - Conclusion matches processed data
 - Conclusion links to the aim of the investigation
 - Conclusion is related the prediction / hypothesis made
 - Conclusion is justified by reference to actual processed data
- Can relate the investigation findings to applicable chemistry ideas

Literacy terms:

Try and write a definition for each of these terms. When you have finished check your answers.

Term	Definition
Practical chemistry investigation	
With direction	
Aim of an investigation	
Prediction / hypothesis	
Trials	
Plan	
Method	
Step-by-step procedure	
Range (e.g. temperature) of different values	
Independent variable	
Dependent variable	
Variables to control	
Fair test	
Primary data	
Results table	
Appropriate units	

Accuracy	
Justify choices	
Reliability	
Anomalous results / outliers	
Convert	
Average	
Trend	
Appropriate graph	
Processed data	
Conclusion	
Applicable chemistry ideas	