

Use this sheet to help plan, conduct, analyse and evaluate your investigation.

Planning your investigation

What is the problem that you are investigating?

Write a prediction, for what you think will happen in your investigation, based on what you already know from everyday life and from science.

What variable will you:

- change? (This is an independent variable.)
- measure and find out about? (This is a dependent variable.)
- measure and keep the same? (These are controlled variables.)

Write a hypothesis as a statement, using the experimental variables. This could be in the form of an 'If ... then ...' statement.

What equipment do you need for the investigation?

How many trials will you do in this investigation? Why?

What safety precautions do you need to consider?

Write a method for your investigation.

Conducting your investigation

Conduct preliminary trials of the investigation. Are there any problems?

Do you need to make any changes to the experimental procedure?

Collect and record your data.

Analysis

Can your results be shown on a graph? If they can, use graph paper to display your results.

Describe any patterns you see in the data.

Use science concepts to explain patterns and relationships you identify in the data.

Write a conclusion. What did your experiment show? Compare the hypothesis to the data collected. How does the data support or discount the hypothesis?

Evaluation

What were the main sources of error in your experiment? (eg measurement errors, poor control of variables, problems with equipment)

How confident are you with your conclusions? How accurate are your results?

How could you improve the experiment to minimise errors and anomalous results?

How could you extend this investigation? What else could you investigate?