



Western Australian Curriculum

Science

Fair test investigation template

Years 5–6

Acknowledgement of Country

Kaya. The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community. We offer our respect to Elders past and present.

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Any resources, such as texts and websites, that may be referred to in this document are provided as examples of resources that teachers can use to support their learning programs. Their inclusion does not imply that they are mandated or that they are the only resources relevant to the course. Teachers must exercise their professional judgement as to the appropriateness of any resources they may wish to use.

Investigations in Science

Investigations in science follow a scientific process of answering a question, exploring an idea or solving a problem. Investigations require activities including planning, collecting and interpreting data and forming a conclusion.

Advice to teachers

The Science inquiry sub-strands listed below describe the skills students are to be taught in each phase of schooling from Pre-primary to Year 10.

- Questioning and predicting
- Planning and conducting
- Processing, modelling and analysing
- Evaluating

The Science inquiry content is banded by phase of schooling.

Students are required to communicate their findings from investigations to others. The Communicating sub-strand describes the appropriate communication skills for each phase of schooling.

This investigation template has been developed for the middle to late childhood phase of schooling (Year 5 and 6) to guide students through the investigation process.

The choice of approach taken when conducting investigations will depend on the type of investigation, context and purpose of the investigation. In the primary years, science investigations mostly involve fair testing, the changing of one variable and the measuring of another. For example, changing the viscosity of a liquid to measure its impact on refraction.

In this phase of schooling investigations require some guidance from teachers, but students are moving towards independence, identifying variables and making some choices about equipment or the way the investigation is conducted.

The guidance provided in an investigation will depend on the purpose of the investigation, for example the skills to be targeted, and student progress in the Science inquiry strand.

Students may:

- be provided with the guidance on the independent variable being tested. They may or may not be provided with more information depending on the amount of guidance.
- be guided in using change and measurable variables to produce a question or prediction. For example, how does adding heat impact the gas production of yeast?
- focus on only one or two inquiry skills at a time, with scaffolding at point of need. For example, use of sentence stems, vocabulary banks or peer modelling.

The table below illustrates how the amount of guidance with science investigations can be adjusted.

Amount of guidance	Question or problem	Equipment	Method
Guided investigation	Provided	Provided	Provided
Open guided investigation	Provided	Provided	Open
Open guided investigation	Provided	Open	Open
Open investigation	Open	Open	Open

Questioning and predicting

Group members: _____

Task title: _____

State the variables for this investigation.

What I will change (independent variable)	What I will measure (dependent variable)	What I will keep the same (controlled variables)

Write the question to be investigated.

Write a prediction for the investigation and explain why you think this will happen.

Describe your observations and record your results in an appropriate table.

Table title: _____

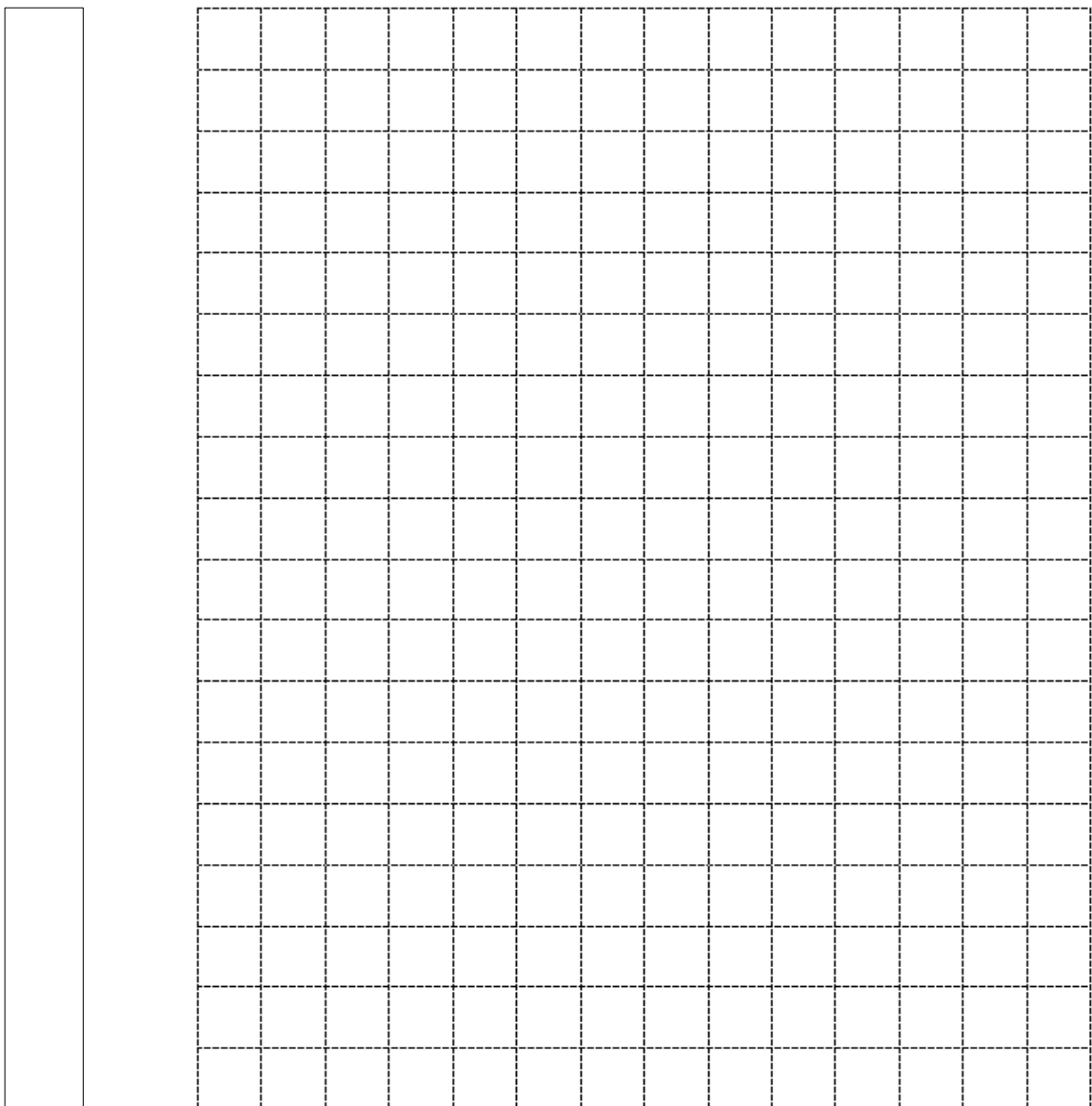
Processing, modelling and analysing

Group members: _____

Task title: _____

Graph the results of the investigation. Label each of the axes and include appropriate units of measurement.

Graph title: _____



Processing, modelling and analysing; and Evaluating

Group members: _____

Task title: _____

Analysing data

Describe the relationships or patterns in the results.

Evaluating

Was your prediction correct? Why or why not?

Was this a fair investigation? Why or why not? How can the investigation be improved?

