



Western Australian Curriculum

Science

Fair test investigation template

Years 3–4

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 3 and 4) 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 surface of a ramp to measure the effect of friction on motion.

In this phase of schooling investigations are still guided by teachers, with some input from the students.

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 provided with the question to be investigated or guided with sentence stems to produce an appropriate question or prediction. For example, When I change _____ what will happen to _____?
- focus on only one or two inquiry skills at a time, or complete sections in collaboration with peers in small group or whole class contexts.

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

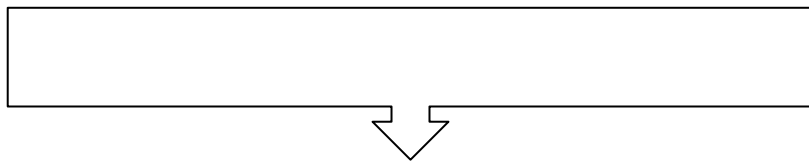
Group members: _____

Task title: _____

What will I change?	What will I measure or observe?

What is the question?

When we change ...



... what do you think will happen?

Planning and conducting

Group members: _____

Task title: _____

List the equipment that you used or that you may need.

Explain what you did. Use numbers to order the steps that you followed.

1.

How can we stay safe?

Risks	Solutions

Draw a diagram or provide a digital representation of the equipment set-up.

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Processing, modelling and analysing

Group members: _____

Task title: _____

Show your results.

Table title: _____

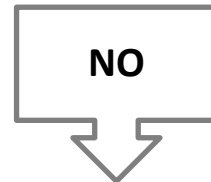
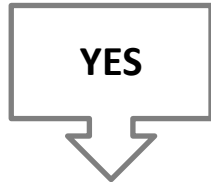
Explain your results, what happened?

Evaluating

Group members: _____

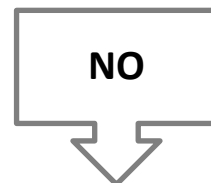
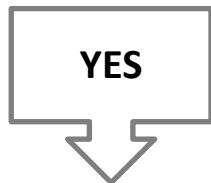
Task title: _____

Was it fair?



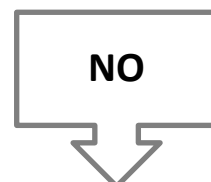
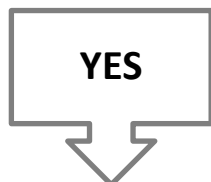
Explain why.

Could it be better?



Explain how.

Was my prediction correct?



Explain why.
