Assessment task

Year level	6
Learning area	Science
Sub-strand	☐ Biological Sciences ☐ Chemical Sciences ☐ Physical Sciences ☐ Earth and Space Sciences
Title of task	

Task guidelines

Description of task	
Type of assessment	Summative
Purpose of assessment	This template may be used to assess science understanding and science inquiry skills.
Guidance provided by teachers	Question to be investigated: Please select the appropriate box ☐ Provided by the teacher, e.g. How does load carried affect the force of friction? ☐ Open for students to develop, e.g. How does a 'student selected factor' affect the force of friction? Equipment: Please select the appropriate box ☐ Provided ☐ A selection provided to choose from ☐ Open Any other comments that may inform the reviewer.

Content description

Content from the Western Australian Curriculum	**Science Understanding** <u>Biological sciences</u> ☐ The growth and survival of living things are affected by physical conditions of their environment <u>Chemical sciences</u> ☐ Changes to materials can be reversible or irreversible <u>Earth and space sciences</u> ☐ Sudden geological changes and extreme weather events can affect Earth's surface <u>Physical sciences</u> ☐ Electrical energy can be transferred and transformed in electrical circuits and can be generated from a range of sources

	Science Inquiry Skills Questioning and predicting ☐ With guidance, pose clarifying questions and make predictions about scientific investigations Planning and conducting ☐ Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks ☐ Decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate Processing and analysing data and information ☐ Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate ☐ Compare data with predictions and use as evidence in developing explanations Evaluating ☐ Reflect on and suggest improvements to scientific investigations Communicating ☐ Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts
Task preparation	
Prior learning	Teachers should consider the timing and sequencing of the learning area content prior to using the template as a summative task.
Conditions under which the task was conducted	Specify relevant information that may inform the reviewer. 1. Time allowed to complete the task. 2. Conditions under which the task was conducted. Where some sections of the template completed as a class, or information provided by the teacher?
Resources	Investigation template provided

Instructions for teacher

1. The template may be used to teach and/or assess Science Understanding and Science Inquiry Skills.
2. It is suggested that information regarding the conditions under which the task was conducted is provided.
3. Provide clarification if students are unfamiliar with the template or template wording.
4. Consider investigations that allow students to demonstrate the full range of Science Inquiry Skills.
5. Include the completed cover page when/if participating in the moderation process. This informs teachers of the conditions under which the task was conducted.
6. Teachers may choose to use the template in its entirety over a period of time, or sections that are relevant to the assessment opportunity.

Year 6

Fair test investigation template

Student name: _____

Group members: _____

Investigation title: _____

QUESTIONING AND PREDICTING

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.

PLANNING AND CONDUCTING

List the equipment required for the investigation.

Describe the possible safety risks in this investigation.

Suggest how they can be managed or controlled.

Safety risks	How they can be managed or controlled

Write the method for this investigation.

Include how the variables will be changed, measured and controlled.

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

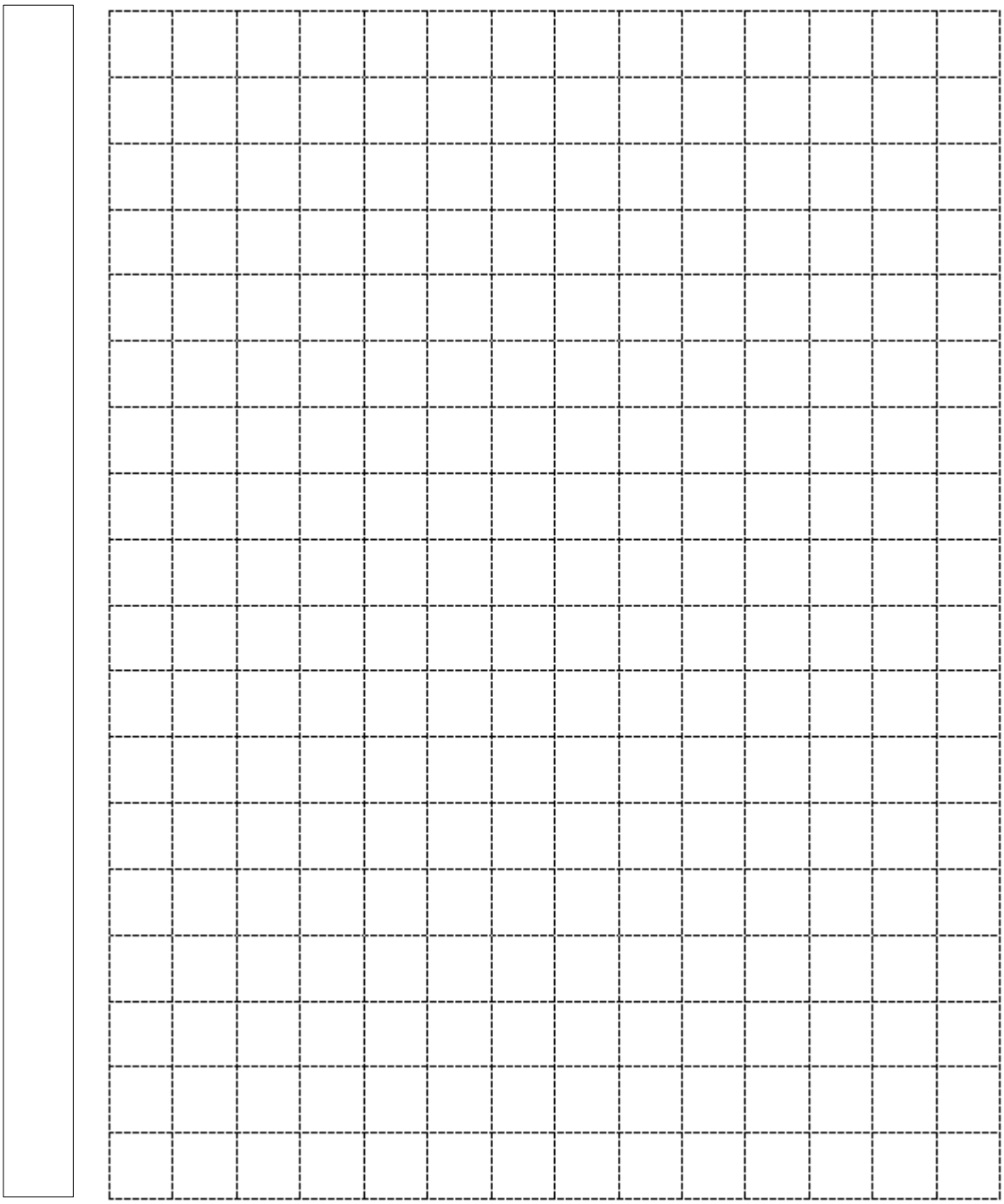
Describe your observations and record your results in an appropriate table.

Table title: _____

PROCESSING DATA

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

Graph title: _____



ANALYSING DATA

Describe the relationships or patterns in the results.

Explain the relationships or patterns in the results using science ideas.

EVALUATING

Describe how the investigation could be improved.

Marking key

Description	Marks
Questioning and predicting	
Identifies the variable to be changed (independent variable).	1
Identifies the variable to be measured (dependent variable).	1
Identifies at least two (2) controlled variables.	1–2
Subtotal	**4**
Writes a question that can be investigated and is reasonable.	1
Subtotal	**1**
Writes a prediction that describes a relationship between the dependent variable and the independent variable; and matches the question posed above.	1–2
Provides a reasonable explanation for choosing this prediction.	1
Subtotal	**3**
Planning and conducting	
Selects the appropriate equipment required to conduct the investigation.	1–2
Subtotal	**2**
Identifies safety risks associated with the investigation.	1–2
Suggests ways to minimise the risks.	1–2
Subtotal	**4**
Provides a method with a logical sequence of steps.	1–2
Provides a method which contains sufficient detail to allow replication. Detail includes: • how the independent variable is changed • how the dependent variable is measured • how other variables are controlled • method is easily followed	 1 1 1 1
Subtotal	**6**
Draws a clear diagram or provides a digital representation that includes: • equipment shown correctly set up • correct labels.	 1 1
Subtotal	**2**
Draws a table that includes: • descriptive title containing dependent and independent variables • information relevant to the investigation • appropriate column headings with units of measurement (if applicable)	 1 1 1

Subtotal	**3**
Processing data	
Graphs results collected from the investigation (if applicable): • provides appropriate graph title • labels axes correctly • includes appropriate units of measurement • plots results correctly • draws the appropriate type of graph.	 1 1 1 1 1
Subtotal	**5**
Analysing data	
Describes the relationships or patterns in the results.	1–2
Refers to specific results when describing the relationship.	1
Compares the results to their prediction.	1
Subtotal	**4**
Explains the relationships or patterns in the results using science ideas.	1–2
Subtotal	**2**
Evaluating	
Identifies difficulties experienced when conducting the investigation. May include reference to, but not limited to: quality of the data, correct use of equipment, choice of equipment.	1–2
Makes suggestions to overcome the difficulties described.	1–2
Subtotal	**4**
Communicating	
Communicates using appropriate scientific language and representations.	1-2
Subtotal	**2**
Total	**40**