Question and Predict

Engage

What can I see, hear, feel, smell or taste?

Only taste things if your teacher tells you it is safe to do so.

Use My Knowledge

What do I already know about this?

Have I seen something like this before?

What happened then? Might something similar happen here?

Question

What is interesting or unexpected about this?

What is changing?

When and how is it changing?

Why might this be happening?

What will happen if . . . ?

How will this change if . . . ?

What do I want to know about this?

What questions could I investigate?

What would be useful questions to investigate?

Predict

What do I think might happen?

Why do I predict that?

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Name _____ Date _____

Investigation: Several Trials

What is my question? _____

_____

What am I changing? _____

_____

What am I measuring? _____

_____

Some tests are difficult to measure, so we need to repeat each step three times and take an average. Here is a table in which to record your data.

What I am changing	Trial 1	Trial 2	Trial 3	Average

Can I graph this? Yes ☐ No ☐

What patterns or changes do I see? _____

_____

_____

My Science Inquiry
How did I do?

Name _____ Date _____

The question I investigated:

_____

_____

Did I choose a useful question to investigate?

Did I use my knowledge to predict what might happen?

Did my plan help me to investigate?

Did I anticipate any problems?

Did I work safely?

Did I collect and record useful data?

What did I learn?

_____

_____

_____

_____

_____

_____

_____

My Science Inquiry
How did I do?

Name _____ Date _____

The question I investigated:

_____

_____

Did I find an answer to my part of the question?

Did I explain the differences between my prediction and my observations?

Did I conduct a fair test?

Did I explain my findings clearly to others?

In my next investigation I would:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Science Inquiry Skills Assessment

Student name	Class

Australian Curriculum Content Description*	☆	☆☆	☆☆☆
Questioning and predicting Respond to and pose questions, and make predictions about familiar objects and events (ACSIS024) (ACSIS037)	Engages with materials and events with curiosity	Asks questions about materials and events observed	Makes predictions to answer questions
Planning and conducting Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources (ACSIS025) (ACSIS038)	Uses the senses to make observations	Follows instructions to conduct investigations	Plans investigations to answer questions
Planning and conducting Use informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate (ACSIS026) (ACSIS039)	Makes comparisons between observations	Uses simple measurements to compare observations	Measures and records data using a variety of tools and digital technologies
Processing and analysing data and information Use a range of methods to sort information, including drawings and provided tables (ACSIS027) (ACSIS040)	Records observations with drawings	Identifies patterns and trends in data	Uses provided organisers to sort and rank information
Processing and analysing data and information Through discussion, compare observations with predictions (ACSIS212) (ACSIS214)	Describes observations	Uses language effectively to describe predictions and observations clearly	Explains what happened in an investigation and suggests why
Evaluating Compare observations with those of others (ACSIS213) (ACSIS041)	Compares their own observations with those of peers.	Integrates information gathered by classmates into a 'whole' picture	Explains whether or not a test was fair and the data accurate
Communicating Represent and communicate observations and ideas in a variety of ways such as oral and written language, drawing and role play (ACSIS029) (ACSIS042)	Communicates observations using drawings and role play	Communicates observations using a variety of devices including oral and written language	Communicates findings, ideas and understandings using a variety of formats

Content How well does the student understand the content of the investigations?	Cites what was observed	Explains what was observed or learned	Identifies concepts that can be applied to new situations or examples

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Mystery Materials

How do the properties of materials vary?

In a group, list some properties of materials. For example, can they be bent or cut? Can they float in water? Are they malleable? Choose a range of materials. Test them for these properties. On a chart, describe the effect of each test on each material.

Materials to try

aluminium	*perspex*
glass	*PVC*
paper	*steel wool*

Show your chart. Describe the properties of one material. Then, ask the other groups to identify it from your chart.

What properties make some materials dangerous to humans or the environment? The environment includes the air, animals, plants, water and weather. What materials with these properties do we discard?

Getting Dirty

How do soils differ?

In small plastic bags, collect samples of soil. Label each bag to record where you collected each sample.

How do the soils differ? Use sight, sound, smell and touch to observe properties. Record your observations in a table.

Properties to observe

colour	*humus*
dampness	*saltiness*
gloss	*size*
grittiness	*stickiness*

Share your samples with the class. Describe the different properties of each sample. Can you explain why the soil samples differ?

Dig a hole. Collect soil samples at various depths. Then, test the properties of each sample as in your previous investigation.