

Year 3 Assessment Rubrics

Year 3 Achievement Standard

By the end of Year 3, students use their understanding of the movement of the Earth, materials and the behaviour of heat to suggest explanations for everyday observations. They describe features common to living things. They describe how they can use science investigations to respond to questions and identify where people use science knowledge in their lives.

Students use their experiences to pose questions and predict the outcomes of investigations. They make formal measurements and follow procedures to collect and present observations in a way that helps to answer the investigations questions. Students suggest possible reasons for their findings. They describe how safety and fairness were considered in their investigations. They use diagrams and other representations to communicate their ideas.

Organisers	CONTENT DESCRIPTIONS	ACHIEVEMENT STANDARD	EVIDENCE	LEVEL OF ACHIEVEMENT		
				BELOW ACHIEVEMENT STANDARD	AT ACHIEVEMENT STANDARD	ABOVE ACHIEVEMENT STANDARD
SCIENCE UNDERSTANDING						
Biological sciences	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	Describes features common to living things	<i>Feathers, fur or leaves?</i> 'Lots of drawings' (Resource sheet 9)	<ul style="list-style-type: none">• Makes groups that show combining living and non-living things• Makes groups that are arbitrary and not based on significant common features	<ul style="list-style-type: none">• Identifies groups of things based on their observable features• Identifies features that distinguish living from non-living things.• Makes groups with similar features but which may not correspond to key scientific features• Describes features common to living things	<ul style="list-style-type: none">• Identifies features that distinguish living from non-living things• Groups living things using observable features and scientific terminology

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SCIENCE UNDERSTANDING						
Chemical sciences	A change of state between solid and liquid can be caused by adding or removing heat (ACSSU046)	Uses their understanding of materials to suggest explanations for everyday observations	<i>Melting moments</i> ‘Too hot!’ (Resource sheet 5)	<ul style="list-style-type: none">• Uses vocabulary to describe the behaviour of heat that might not be key to the activity• Discusses that the Sun is a source of heat	<ul style="list-style-type: none">• Identifies that materials can change between a solid and a liquid when heat is removed or added• Identifies everyday objects that change between a solid and a liquid when heat is removed or added• Uses key vocabulary to describe the behaviour of heat	<ul style="list-style-type: none">• Provides extended explanations of the behaviour of heat

AC The Achievement standard and Content descriptions are sourced from the Australian Curriculum.

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SCIENCE UNDERSTANDING						
Earth and space sciences	Earth’s rotation on its axis causes regular changes, including night and day (ACSSU048)	Uses their understanding of the movement of the Earth to suggest explanations for everyday observations	<i>Night and day</i> ‘Where’s the Sun?’ (Resource sheet 1) Annotated drawings	<ul style="list-style-type: none">Describes how night occurs when on the dark or shadow side of the EarthDescribes the ‘apparent’ movement of the Sun across the daytime sky	<ul style="list-style-type: none">Explains how night and day are caused by the Earth rotating on its axisDescribes the shape and relative sizes of the Sun, Moon and Earth	<ul style="list-style-type: none">Provides extended explanations about how night and day are caused by the Earth rotating on its axis
Physical sciences	Heat can be produced in many ways and can move from one object to another (ACSSU049)	Uses their understanding the behaviour of heat to suggest explanations for everyday observations	<i>Heating up</i> ‘Where’s the heat?’ (Resource sheet 7) Annotated drawings	<ul style="list-style-type: none">Locates heat sourcesDiscusses that heat can cause materials and objects to melt	<ul style="list-style-type: none">Identifies that heat can be produced in different ways by different heat sourcesExplains that heat can move from one object to another	<ul style="list-style-type: none">Explains that heat moves from the hotter object to the colder objectApplies knowledge of the behaviour of heat to explain everyday observations

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SCIENCE AS A HUMAN ENDEAVOUR						
Nature and development of science	Science involves making predictions and describing patterns and relationships (ACSHE050)	Describes how they can use science investigations to respond to questions	<ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Identifies science investigations that relate to questions	Describes how they can use science investigations to respond to questions	Provides a detailed understanding of how they can use science investigations to respond to questions
Use and influence of science	Science knowledge helps people to understand the effect of their actions (ACSHE051)	Identifies where people use science knowledge in their lives	<ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Makes suggestions about where people use science knowledge in their lives	Identifies where people use science knowledge in their lives	Provides a detailed understanding of where people use science knowledge in their lives and in the wider world

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SCIENCE INQUIRY SKILLS						
Questioning and predicting	With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge (ACSIS053)	Uses experiences to pose questions and predict the outcomes of investigations	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Makes predictions without supporting evidence	Uses experiences to pose questions and predict the outcomes of investigations	Asks pertinent and investigable questions and predicts the outcomes of investigations supported with detailed evidence based on their knowledge and experiences
Planning and conducting	Suggest ways to plan and conduct investigations to find answers to questions (ACSIS054)	Describes how they can use science investigations to respond to questions	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Melting moments</i>• <i>Night and day</i>	Makes suggestions about planning or conducting science investigations	Describes how they can use science investigations to respond to questions	Demonstrates a detailed understanding of how they can plan and conduct science investigations to respond to questions

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SCIENCE INQUIRY SKILLS						
Planning and conducting	Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate (ACSIS054)	Makes formal measurements and follow procedures to collect and present observations Describes how safety was considered in the investigation	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Follows guidelines on making and recording observations and using materials safely	Makes formal measurements and follows procedures to collect and present observations Describes how safety was considered in the investigation	Independently records and presents observations using formal measurements where appropriate Describes in detail how and why safety was considered in the investigation
	Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends (ACSIS057)	Presents observations in a way that helps to answer the investigation questions	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Follows simple procedures to represent observations	Presents observations in a way that helps to answer the investigation questions	Has knowledge of different ways to represent data and uses these to identify meaningful patterns and trends
Processing and analysing data and information	Compare results with predictions, suggesting possible reasons for findings (ACSIS215)	Suggests possible reasons for findings	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Night and day</i>	Suggests reasons for findings that are obvious and follow explicitly from given evidence	Suggests possible reasons for findings	Applies scientific concepts and knowledge and constructs claims based on evidence to explain phenomena

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SCIENCE INQUIRY SKILLS						
Evaluating	Reflect on the investigation, including whether a test was fair or not (ACSIS058)	Describes how fairness was considered in the investigation	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Feathers, fur or leaves?</i>• <i>Melting moments</i>• <i>Night and day</i>• <i>Heating up</i>	Demonstrates a non-scientific idea of a fair investigation	Describes how fairness was considered in the investigation	Identifies variables and articulates why a test is fair or not, and suggests ways to improve the investigation
Communicating	Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple reports (ACSIS060)	Uses diagrams and other representations to communicate their ideas	<i>Elaborate</i> phase in: <ul style="list-style-type: none">• <i>Melting moments</i>• <i>Heating up</i>	Chooses from a limited repertoire of ways to represent and communicate their ideas and findings	Uses diagrams and other representations to communicate their ideas	Considers a variety of representations to communicate their ideas and findings

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GLOSSARY

- Describe** Give an account of characteristics or features.
- Identify** Establish or indicate who or what someone or something is.
- Considered** Formed after careful thought.

Acknowledgements

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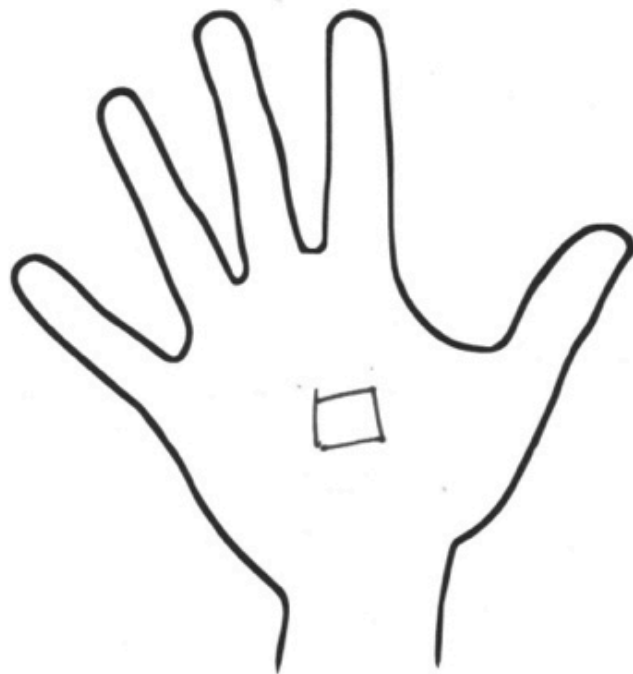
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Year 3 **Work samples**

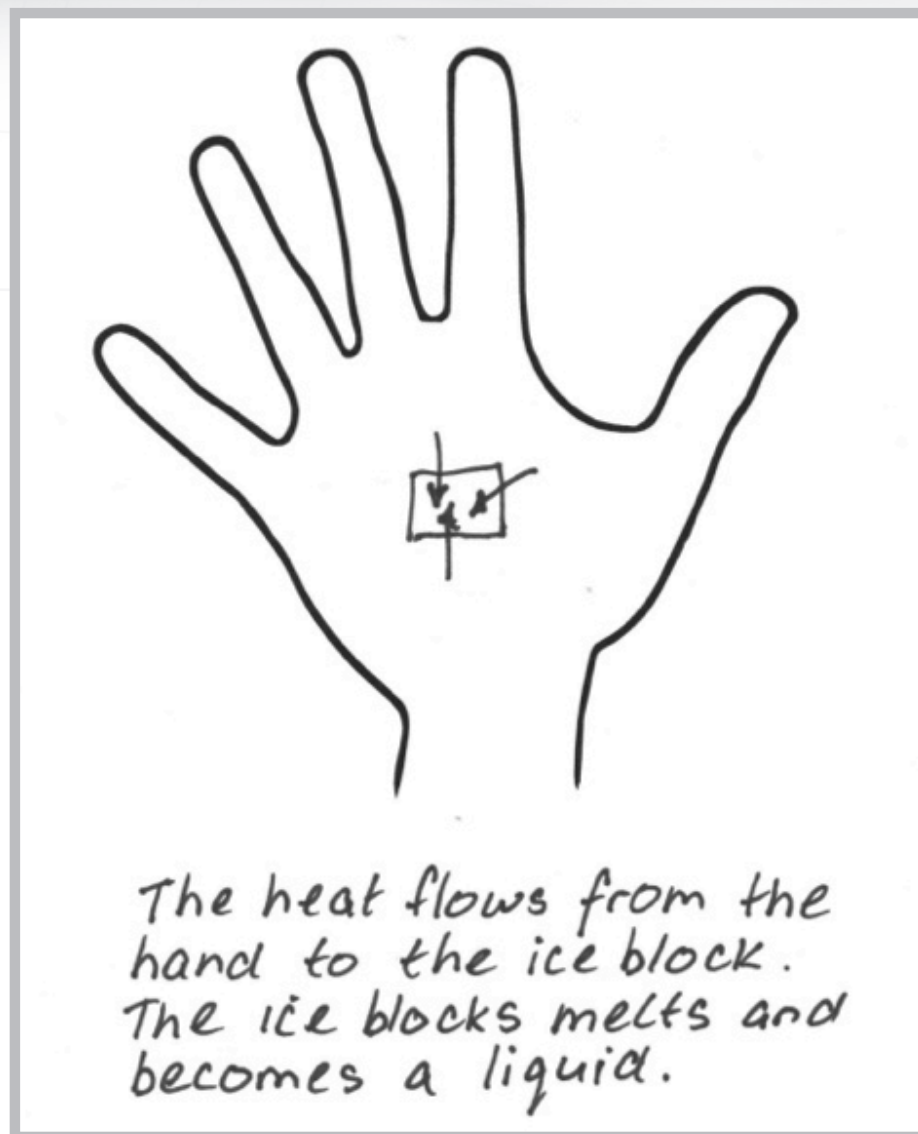
Heating up

Summative Assessment of Science Understanding

Below Achievement Standard



The ice block melts because
the hand is hot.

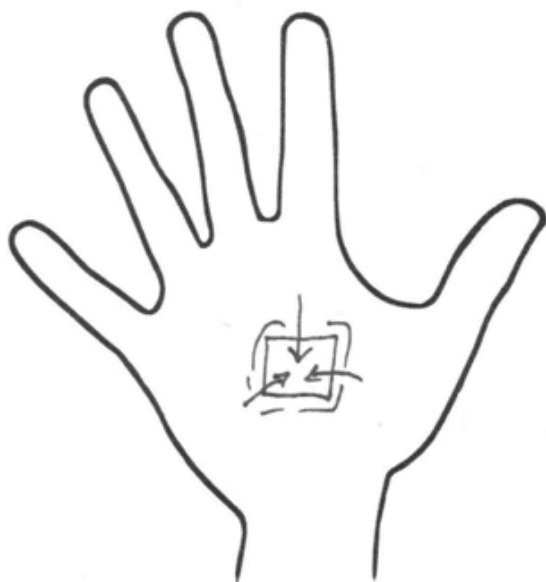


Year 3 **Work samples**

Heating up

Summative Assessment of Science Understanding

At Achievement Standard



Heat flows from the hand to the iceblock because the hand is hotter than the iceblock. The ice block turns from a solid to a liquid.

Year 3 **Work samples**

Heating up

Summative Assessment of Science Understanding

Above Achievement Standard

Year 3 Work samples

Heating up Summative Assessment of Science Inquiry Skills

Below Achievement Standard

Processing and analysing data and information

Discussing results

What did our class find?

The metal spoon was
the hottest

Why do we think that happened?

We put it in the
water and it got hot.

Evaluating

Our investigation was fair
because everyone had a turn
with the spoons.

Year 3 Work samples

Heating up

Summative Assessment of Science Inquiry Skills

At Achievement Standard

Processing and analysing data and information

Discussing results

What did our class find?

We found out that the metal spoon was the hottest after 3 minutes.

Why do we think that happened?

We think that happened because it was easier for the heat of the water to flow to the spoon made of metal because metal is a good conductor.

Evaluating

Our investigation was fair because we kept all the variables the same except for one which was the type of spoon.

Year 3 Work samples

Heating up

Summative Assessment of Science Inquiry Skills

Above Achievement Standard

Processing and analysing data and information

Discussing results

What did our class find?

We found out that the metal spoon was the hottest, the plastic spoon was the next hottest and the wooden spoon was not very hot.

Why do we think that happened?

Metal is the best conductor of heat which means that it heats up quicker from the hot water. Plastic and wood are insulators so they don't heat up as quick

Evaluating

Our investigation was fair because we changed one variable which was the spoon, we observed one thing which was the hotness of the spoon and we kept all the other variables the same.

Student Self-Assessment

Heating up Year 3 Physical sciences

Name: _____ Date: _____

Strand	What I can do	I need help to do this	I can do this	I can do this very well
Science Understanding	I can explain how heat can move from one object to another.			
	I can identify different heat sources that produce heat.			
Science as a Human Endeavour	I can share how science is about making predictions and talking about why our results match or don't match our predictions.			
	I can share how science helps us to understand things that happen around us.			
Science Inquiry Skills	I can predict what materials might be good conductors of heat.			
	I can record my results in a table.			
	I can say what a fair test is.			
	I can compare my results with my prediction about types of materials that conduct heat and say why they might be different.			
	I can discuss my ideas with others.			

RUBRICS *Heating up* 15

RUBRICS *Heating up* 16