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	*Feathers, fur or leaves?* 'Lots of drawings' (Resource sheet 9)	• Makes groups that show combining living and non-living things • Makes groups that are arbitrary and not based on significant common features	• 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 • Labels groups using scientific names	• Identifies non-living things • Identifies groups based their observable features • Groups living things using observable features and scientific names

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

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				BELOW ACHIEVEMENT STANDARD	AT ACHIEVEMENT STANDARD	ABOVE ACHIEVEMENT STANDARD
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	*Melting moments* 'Too hot!' (Resource sheet 5)	• 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	• Identifies that materials can change between a solid and a liquid when the temperature changes • Identifies everyday objects that change between a solid and a liquid when the temperature changes • Uses key vocabulary to describe the behaviour of heat	• Predicts the outcomes of investigations supported with detailed evidence based on experiences • Makes a considered comparison of results with predictions and provides detailed reasons for findings • Provides a detailed understanding of variables and how to conduct a fair test

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				BELOW ACHIEVEMENT STANDARD	AT ACHIEVEMENT STANDARD	ABOVE ACHIEVEMENT STANDARD
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	*Night and day* 'Where's the Sun?' (Resource sheet 1) Annotated drawings	• Describes how night is caused by being on the dark or shadow side of the Earth	• Explains how night and day are caused by the Earth rotating on its axis • Describes the shape and relative sizes of the Sun, Moon and Earth	• Provides extended information 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	*Heating up* 'Where's the heat?' (Resource sheet 7) Annotated drawings	• Locates heat sources • Discusses that heat can cause objects to melt	• Identifies that heat can be produced in different ways by different heat sources • Explains that heat can move from one object to another.	• Explains that heat moves from the hotter object to the colder object • Transfers knowledge of the behaviour of heat to explain everyday observations

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				BELOW ACHIEVEMENT STANDARD	AT ACHIEVEMENT STANDARD	ABOVE ACHIEVEMENT STANDARD
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	• *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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	• *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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	*Elaborate* phase in: • *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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	*Elaborate* phase in: • *Melting moments* • *Night and day*	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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				BELOW ACHIEVEMENT STANDARD	AT ACHIEVEMENT STANDARD	ABOVE ACHIEVEMENT STANDARD
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	*Elaborate* phase in: • *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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
Processing and analysing data and information	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	*Elaborate* phase in: • *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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
	Compare results with predictions, suggesting possible reasons for findings (ACSIS215)	Suggests possible reasons for findings	*Elaborate* phase in: • *Feathers, fur or leaves?* • *Night and day*	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	*Elaborate* phase in: • *Feathers, fur or leaves?* • *Melting moments* • *Night and day* • *Heating up*	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	*Elaborate* phase in: • *Melting moments* • *Heating up*	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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Disclaimer
The views expressed herein do not necessarily represent the views of the Australian Government.

Feathers, fur or leaves? 'Lots of drawings' (Resource sheet 9)

Year 3 **Work samples**

Feathers, fur or leaves?
Summative Assessment of Science Understanding

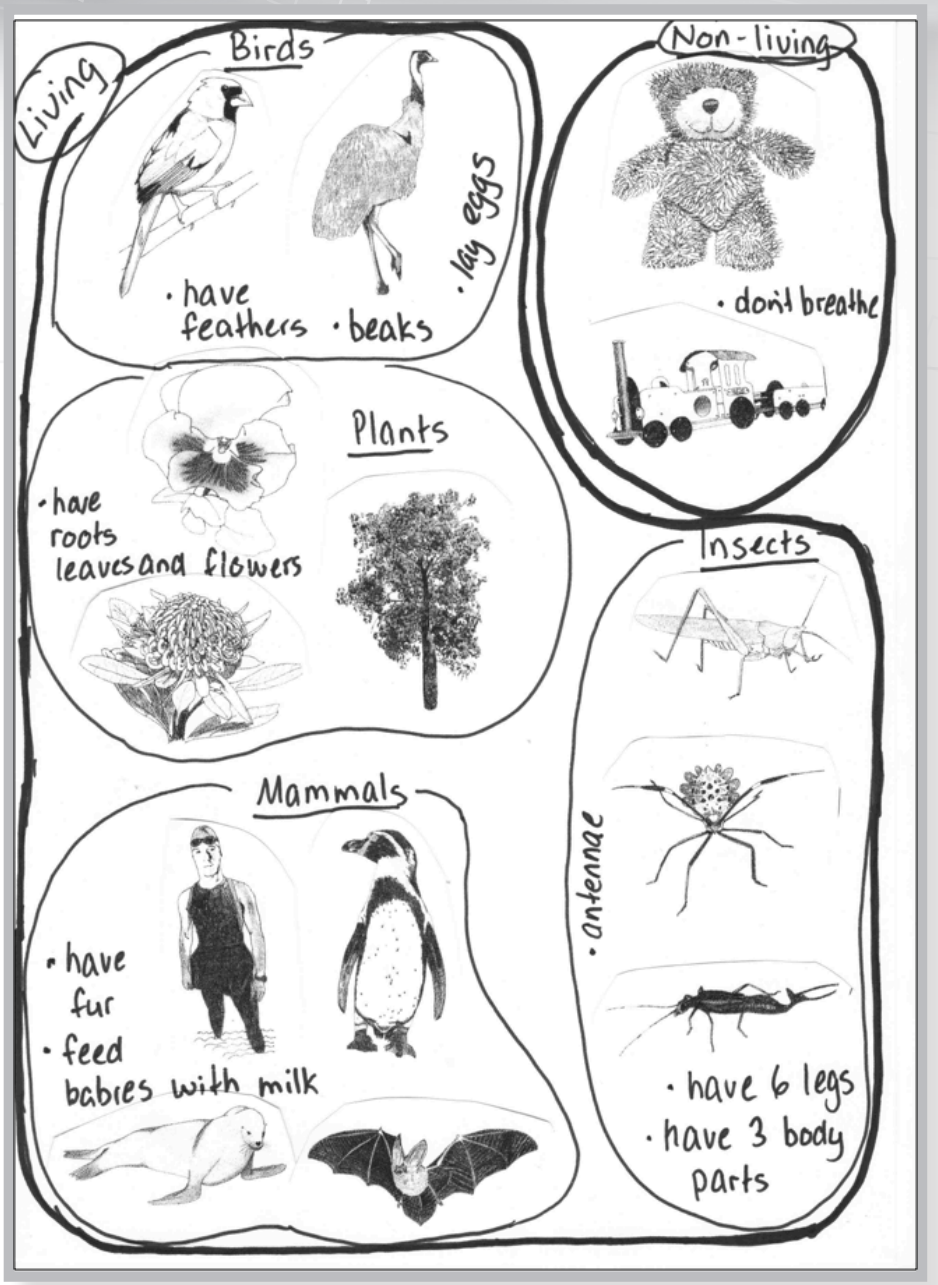
Below Achievement Standard

Feathers, fur or leaves? 'Lots of drawings' (Resource sheet 9)

Year 3 **Work samples**

Feathers, fur or leaves?
Summative Assessment of Science Understanding

At Achievement Standard



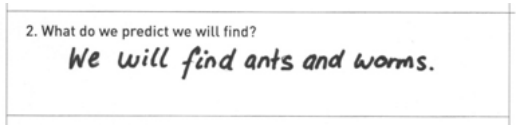
Feathers, fur or leaves? 'Lots of drawings' (Resource sheet 9)

Year 3 **Work samples**

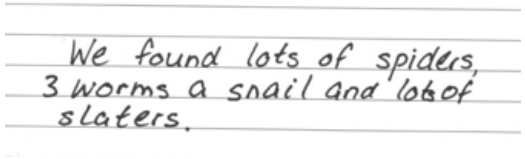
Feathers, fur or leaves?
Summative Assessment of Science Understanding

Above Achievement Standard

Making a prediction

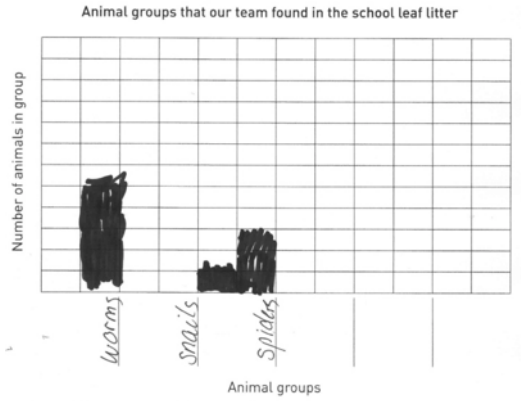


Comparing results with predictions



Making and recording observations

Presenting observations



Feathers, fur or leaves? Processing and analysing data and information

Year 3 **Work samples**

Feathers, fur or leaves?
Summative Assessment of Science Inquiry Skills

Below Achievement Standard

Making a prediction

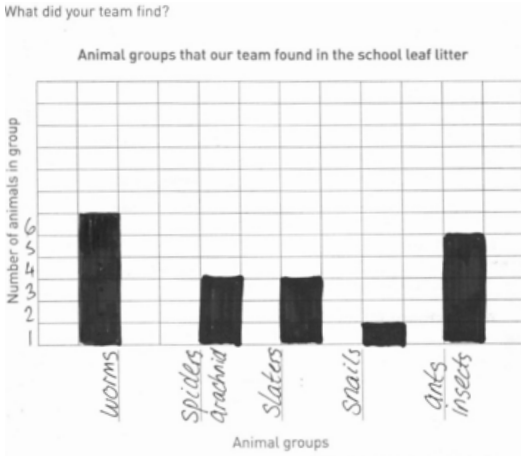
2. What do we predict we will find?
I predict we will find annelids, insects and arachnids because I have seen them there before.

Comparing results with predictions

We found the groups we predicted and we also found arachnids and molluscs. We think we didn't predict them because we haven't seen them there before.

Making and recording observations

Presenting observations



Feathers, fur or leaves? Processing and analysing data and information

Year 3 **Work samples**

Feathers, fur or leaves?
Summative Assessment of Science Inquiry Skills

At Achievement Standard

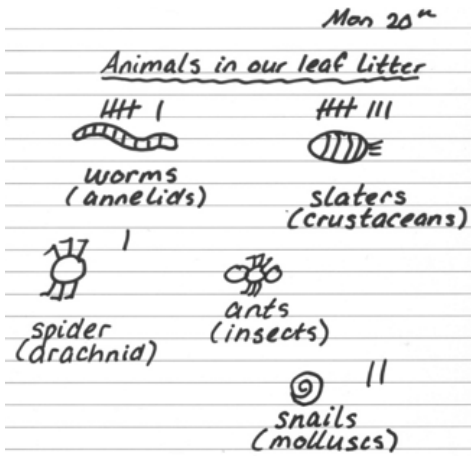
Making a prediction

2. What do we predict we will find? I predict we will find animal groups such as annelids, insects and crustaceans. I have seen worms, slaters and ants there before and they belong to these animal groups.
3. What do we need?

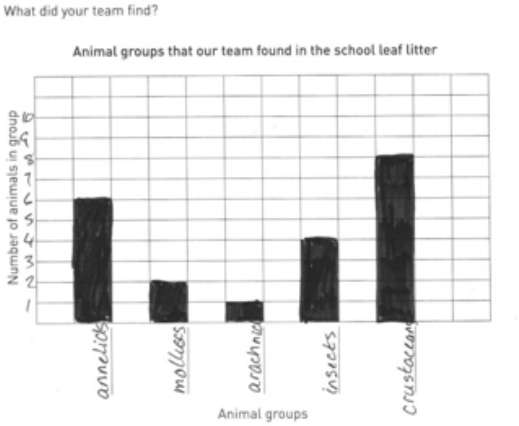
Comparing results with predictions

We found the animal groups that we predicted. We found two more animal groups – molluscs and arachnids. We think we found them too because we hadn't seen them in leaf litter before and maybe they were attracted to something that was there.

Making and recording observations



Presenting observations



Feathers, fur or leaves? Processing and analysing data and information

Year 3 **Work samples**

Feathers, fur or leaves?
Summative Assessment of Science Inquiry Skills

Above Achievement Standard

Student Self-Assessment

Feathers, fur or leaves? **Year 3 Biological sciences**

PrimaryConnections® Linking science with literacy

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 group living things and non-living things by looking at the features they have in common.			
Science as a Human Endeavour	I can explain how science is about making predictions and comparing how things are similar and different.			
	I can share how science helps us to understand why we need to look after our environment and the animals that live in it.			
Science Inquiry Skills	I can predict what animal groups might be found in the school's leaf litter.			
	I can suggest how we might plan and do an investigation about the animals in our school grounds.			
	I can safely follow directions about how to collect information about the leaf litter.			
	I can make line drawings of living things.			
	I can make tallies of how many animals in each group we find.			
	I can make a column graph of the results of the animal tally and tell the story of what it shows.			
	I can compare my results with my prediction about the animal groups in the leaf litter and say why they might be different.			

Achievement Standard Class Checklist

Feathers, fur or leaves? **Year 3 Biological sciences**

(This checklist is designed to be used in conjunction with the Assessment Rubric for the *Feathers, Fur or Leaves?* unit)

PrimaryConnections® Linking science with literacy

Date: _____

	Science Understanding	**Science as a Human Endeavour**		**Science Inquiry Skills**						
	Describes features common to living things	Describes how they can use science investigations to respond to questions	Identifies where people use science knowledge in their lives	Uses experiences to pose questions and predict the outcomes of investigations	Describes how they can use science investigations to respond to questions	Makes formal measurements Describes how safety was considered in the investigation	Presents observations in a way that helps to answer the investigations questions	Suggests possible reasons for their findings	Describes how fairness was considered in the investigation	Uses diagrams and other represesentations to communicate their ideas
Example: Student A	AAS		AS	AS		AAS	AS		AS	

BAS – Below Achievement Standard This indicates that the student has a limited understanding of the concept and/or skill
AS – At Achievement Standard This indicates that the student has a good understanding of the concept and/or skill
AAS – Above Achievement Standard This indicates that the student has a detailed understanding of the concept and/or skill

Achievement Standard Class Checklist

Feathers, fur or leaves? **Year 3 Biological sciences**

(This checklist is designed to be used in conjunction with the Assessment Rubric for the *Feathers, Fur or Leaves?* unit)

PrimaryConnections® Linking science with literacy

Date: _____

	Science Understanding	**Science as a Human Endeavour**		**Science Inquiry Skills**						
	Describes features common to living things	Describes how they can use science investigations to respond to questions	Identifies where people use science knowledge in their lives	Uses experiences to pose questions and predict the outcomes of investigations	Describes how they can use science investigations to respond to questions	Makes formal measurements Describes how safety was considered in the investigation	Presents observations in a way that helps to answer the investigations questions	Suggests possible reasons for their findings	Describes how fairness was considered in the investigation	Uses diagrams and other represesentations to communicate their ideas
Example: Student A	AAS		AS	AS		AAS	AS		AS	

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