That's my hat!—Alignment with the Australian Curriculum

That's my hat! is written to align to the Foundation Year level of the Australian Curriculum: Science. The Science Understanding, Science Inquiry Skills, and Science as a Human Endeavour strands are interrelated and embedded throughout the unit (see page xi for further details). This unit focuses on the Chemical sciences sub-strand.

Foundation Year Science Understanding for the Chemical Sciences:	**Objects are made of materials that have observable properties (ACSSU003)**
Guiding questions that inform the inquiry in *That's my hat!*:	• What shall I decorate my hat with? What objects made of different materials could I use? • What describing words can I use to talk about the decorations? • What do the decorations look like? What do they feel like? • What happens to the decorations if I take my hat outside in the rain? • Will my hat protect my face from the Sun?

AC All the material in the first row of this table is sourced from the Australian Curriculum v8.3.

Foundation Year Achievement Standard

The Australian Curriculum: Science Foundation Year achievement standard indicates the quality of learning that students should demonstrate by the end of the Foundation Year.

> **By the end of the Foundation Year, students describe the properties** and behaviour **of familiar objects.** They suggest how the environment affects them and other living things. **Students share and reflect on observations, and ask and respond to questions about familiar objects and events.**

The sections relevant to *That's my hat!* are bolded above. By the end of the unit, teachers will be able to make evidence-based judgements on whether the students are achieving below, at or above the achievement standard for the sections bolded above.

That's my hat!—Australian Curriculum: Key ideas

In the Australian Curriculum: Science, there are six key ideas that represent key aspects of a scientific view of the world and bridge knowledge and understanding across the disciplines of science. The below table explains how these are represented in *That's my hat!*.

Key idea	Representation in *That's my hat!*
Patterns, order and organisation	Students identify similarities and differences in materials and objects and sort them according to their properties.
Form and function	Students observe and make simple inferences about how the properties of materials affect the function of an object, for example, a 'Rainy days' hat needs to be made of waterproof materials. They explore how form is important, for example, the shape of a hat can determine whether it casts a shadow to protect the user's face from sunlight.
Stability and change	Students investigate and describe how materials change, or do not change, when subjected to rainy weather.
Scale and measurement	Students observe and describe properties of objects, including size and mass.
Matter and energy	Students identify that objects are made up of materials.
Systems	Students observe that the materials that make up an object have properties that affect the properties of the object as a whole.

Incorporating the key ideas

According to the Australian Curriculum: Science 'from Foundation to Year 2, students learn that observations can be organised to reveal patterns, and that these patterns can be used to make predictions about phenomena'.

> In Foundation Year, students observe and describe the behaviours and properties of everyday objects, materials and living things. They explore change in the world around them, including changes that have an impact on them, such as the weather, and changes they can effect, such as making things move or change shape. They learn that seeking answers to questions they pose and making observations is a core part of science and use their senses to gather different types of information.

In *That's my hat!* students observe the properties of materials of everyday objects. They explore the effect of changing the type of materials used on the observable properties of an object, such as changing the materials used for the brim of a hat to make the hat more or less sun safe. Students investigate the effect of rainy weather on various materials and use this information to help select appropriate materials for making waterproof hats.

Students observe properties of materials using their senses. They describe how materials look and feel and sort them accordingly. Students work collaboratively to seek answers and make observations through guided investigations.

That's my hat!—Australian Curriculum: Science

That's my hat! embeds all three strands of the Australian Curriculum: Science. For ease of reference, the table below outlines the sub-strands covered in *That's my hat!*, the content descriptions for Foundation Year and the aligned lessons.

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
Science Understanding	Chemical sciences	ACSSU003	Objects are made of materials that have observable properties	1–7
Science as a Human Endeavour	Nature and development of science	ACSHE013	Science involves observing, asking questions about, and describing changes in, objects and events	1–7
Science Inquiry Skills	Questioning and predicting	ACSIS014	Pose and respond to questions about familiar objects and events	1–7
	Planning and conducting	ACSIS011	Participate in guided investigations and make observations using the senses	1–6
	Processing and analysing data and information	ACSIS233	Engage in discussions about observations and represent ideas	1–7
	Communicating	ACSIS012	Share observations and ideas	1–7

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General capabilities

The skills, behaviours and attributes that students need to succeed in life and work in the 21st century have been identified in the Australian Curriculum as general capabilities. There are seven general capabilities and they are embedded throughout the curriculum. For further information see: www.australiancurriculum.edu.au

For examples of our unit-specific general capabilities information see the next page.

That's my hat!—Australian Curriculum: General capabilities

General capabilities	Australian Curriculum description	*That's my hat!* examples
Literacy	Students develop a broader literacy capability as they explore and investigate their world. By learning the literacy of science, students understand that language varies according to context and they increase their ability to use language flexibly.	In *That's my hat!* the literacy focuses are: • word walls • science journals • drawings • sorting diagrams • T-charts • tables • annotated drawings.
Numeracy 	Many elements of numeracy are particularly evident in Science Inquiry Skills. These include practical measurement and the collection, representation and interpretation of data from investigations.	Students: • count up to 20 drops of water onto each material for testing water resistance • sort and classify familiar objects and explain the basis for these classifications • answer yes/no questions to collect information and make simple inferences.
Information and Communication Technology (ICT) capability	Students develop ICT capability when they research science concepts and applications, investigate scientific phenomena and communicate their scientific understandings. In particular, they use their ICT capability to access information; collect, analyse and represent data; model and interpret concepts and relationships; and communicate science ideas, processes and information.	Students are given optional opportunities to: • take photos of their hat creations • create a class book to represent their understanding.
Critical and creative thinking 	Students develop capability in critical and creative thinking as they learn to generate and evaluate knowledge, ideas and possibilities, and use them when seeking new pathways or solutions.	Students: • ask and answer questions, describe and explain their ideas, make suggestions and join in discussions.
Personal and social capability 	Students develop personal and social capability as they engage in science inquiry, learn how scientific knowledge informs and is applied in their daily lives, and explore how scientific debate provides a means of contributing to their communities.	Students: • participate in discussions • work collaboratively in teams • listen to and follow instructions to safely complete investigations.
Ethical understanding	Students develop the capacity to form and make ethical judgements in relation to experimental science, codes of practice, and the use of scientific information and science applications.	Students: • ask questions of others, respecting each other's point of view.
Intercultural understanding 	Students learn to appreciate the contribution that diverse cultural perspectives have made to the development, breadth and diversity of science knowledge and applications.	• Important contributions made to science by people from a range of cultures are highlighted where relevant.

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That's my hat!—Australian Curriculum: English

In the Foundation Year, students communicate with peers, teachers, known adults and students from other classes.

Students engage with a variety of texts for enjoyment. They listen to, read and view spoken, written and multimodal texts in which the primary purpose is to entertain, as well as some texts designed to inform. These include traditional oral texts, picture books, various types of stories, rhyming verse, poetry, non-fiction, film, multimodal texts and dramatic performances. They participate in shared reading, viewing and storytelling using a range of literary texts, and recognise the entertaining nature of literature.

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
Language	**Language for interaction**	ACELA1429	Understand that language can be used to explore ways of expressing needs, likes and dislikes	1–7
	Expressing and developing ideas	ACELA1437	Understand the use of vocabulary in familiar contexts related to everyday experiences, personal interests and topics taught at school	1–7
Literacy	**Interacting with others**	ACELY1646	Listen to and respond orally to texts and to the communication of others in informal and structured classroom situations	1–7
		ACELY1784	Use interaction skills including listening while others speak, using appropriate voice levels, articulation and body language, gestures and eye contact	1–7
		ACELY1647	Deliver short oral presentations to peers	2–4, 6

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That's my hat!—Australian Curriculum: Mathematics

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
Number and Algebra	**Number and place value**	ACMNA001	Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point	3
	Patterns and algebra	ACMNA005	Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings	2, 5

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That's my hat!—Australian Curriculum: Design and Technologies

Strand	Code	Foundation Year content descriptions	Lessons
Knowledge and Understanding	ACTDEK004	Explore the characteristics and properties of materials and components that are used to produce designed solutions	2–6
Processes and Production Skills	ACTDEP005	Explore needs or opportunities for designing, and the technologies needed to realise designed solutions	3, 4, 6
	ACTDEP006	Generate, develop and record design ideas through describing, drawing and modelling	6
	ACTDEP007	Use materials, components, tools, equipment and techniques to safely make designed solutions	6
	ACTDEP008	Use personal preferences to evaluate the success of design ideas, processes and solutions including their care for environment	7
	ACTDEP009	Sequence steps for making designed solutions and working collaboratively	6

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That's my hat!—Australian Curriculum: Cross-curriculum priorities

There are three cross-curriculum priorities identified by the Australian Curriculum:

- Aboriginal and Torres Strait Islander histories and cultures
- Asia and Australia's engagement with Asia
- Sustainability.

Two of these are embedded within *That's my hat!*, as described below.

Aboriginal and Torres Strait Islander histories and cultures

The Primary**Connections** Indigenous perspectives framework supports teachers' implementation of Aboriginal and Torres Strait Islander histories and cultures in science. The framework can be accessed at: www.primaryconnections.org.au

That's my hat! focuses on the Western science method of making evidence-based claims about familiar objects and the materials they are made of, the properties of which make them suitable for particular uses.

Aboriginal and Torres Strait Islander Peoples might have other explanations for the observed phenomenon of materials, their properties and uses.

Primary**Connections** recommends working with Aboriginal and Torres Strait Islander community members to access local and relevant cultural perspectives. Protocols for engaging with Aboriginal and Torres Strait Islander community members are provided in state and territory education guidelines. Links to these are provided on the Primary**Connections** website.

Asia and Australia's engagement with Asia

The *That's my hat!* unit provides opportunities for students to develop understandings about Asia and its diversity. Through observing traditional headwear and learning about the cultural uses for it, students recognise cultures that are diverse and different from their own.

By focusing on the materials used and their properties, students will gain insight to the diverse environments of the Asian region that provide natural materials used in traditional headwear. Students appreciate that study of materials and designs of headwear from other cultures can inform their own choices when designing and selecting materials for their own hats.