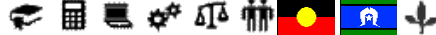



# Year 3 Planner — Australian Curriculum: Science

Year: \_\_\_\_\_ Year Level: \_\_\_\_\_ Teacher \_\_\_\_\_

Identify curriculum	<b>Year level description (highlighted aspects indicate differences from the previous year level)</b>	<p>The Science Inquiry Skills and Science as a Human Endeavour strands are described across a two-year band. In their planning, schools and teachers refer to the expectations outlined in the Achievement Standard and also to the content of the Science Understanding strand for the relevant year level to ensure that these two strands are addressed over the two-year period. The three strands of the curriculum are interrelated and their content is taught in an integrated way. The order and detail in which the content descriptions are organised into teaching/learning programs are decisions to be made by the teacher.</p> <p>Over Years 3 to 6, students develop their understanding of a range of systems operating at different time and geographic scales. In Year 3, students observe heat and its effects on solids and liquids and begin to develop an understanding of energy flows through simple systems. In observing day and night, they develop an appreciation of regular and predictable cycles. Students order their observations by grouping and classifying; in classifying things as living or non-living they begin to recognise that classifications are not always easy to define or apply. They begin to quantify their observations to enable comparison, and learn more sophisticated ways of identifying and representing relationships, including the use of tables and graphs to identify trends. They use their understanding of relationships between components of simple systems to make predictions.</p>
	<b>Achievement standard</b>	<p>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.</p> <p>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 investigation 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.</p>
	Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), <i>Australian Curriculum v3.0: Science for Foundation–10</i> < <a href="http://www.australiancurriculum.edu.au/Science/Curriculum/F-10">www.australiancurriculum.edu.au/Science/Curriculum/F-10</a> >.	
Teaching and learning	<b>Aboriginal and Torres Strait Islander perspectives</b>	<p>Science provides opportunities for students to strengthen their appreciation and understanding of Aboriginal peoples and Torres Strait Islander peoples and their living cultures. Specific content and skills within relevant sections of the curriculum can be drawn upon to encourage engagement with:</p> <ul style="list-style-type: none"> <li>• Aboriginal and Torres Strait Islander frameworks of knowing and ways of learning</li> <li>• Indigenous contexts in which Aboriginal and Torres Strait Islander peoples live</li> <li>• Aboriginal peoples' and Torres Strait Islander peoples' contributions to Australian society and cultures.</li> </ul> <p>Science provides opportunities to explore aspects of Australian Indigenous knowing with connection to, and guidance from, the communities who own them. Using a respectful inquiry approach, students have the opportunity to explore non-Indigenous science interpretations of Aboriginal and Torres Strait Islander lifestyles including knowledge of natural phenomena; native flora and fauna; and land, water and waste management. Using an inquiry approach enables students to learn science in contexts that are valued by Aboriginal and Torres Strait Islander students, their peers and communities, acknowledging their values and approaches to learning.</p>
	<b>General capabilities and cross-curriculum priorities</b>	<p>Opportunities to engage with:</p> 
	<b>Key to general capabilities and cross-curriculum priorities</b>	 <p>  Literacy                Numeracy                ICT capability                Critical and creative thinking                Ethical behaviour                Personal and social capability                Intercultural understanding   Aboriginal and Torres Strait Islander histories and cultures                Asia and Australia's engagement with Asia                Sustainability         </p>

	Year 3 Term Planner	Physical Sciences Term 1 Even Years / Term 2 Odd Years	Earth and Space Sciences Term 2 Even Years / Term 1 Odd Years	Biological Sciences Term 3 Even Years / Term 4 Odd Years	Chemical Sciences Term 4 Even Years / Term 3 Odd Years
Teaching and learning	Science Understanding Content Descriptors	Heat can be produced in many ways and can move from one object to another (ACSSU049)	Earth's rotation on its axis causes regular changes, including night and day (ACSSU048)	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)	A change of state between solid and liquid can be caused by adding or removing heat (ACSSU046)
	Elaborations	<ul style="list-style-type: none"> <li>describing how heat can be produced such as through friction or motion, electricity or chemically (burning)</li> <li>identifying changes that occur in everyday situations due to heating and cooling</li> <li>exploring how heat can be transferred through conduction</li> <li>recognising that we can feel heat and measure its effects using a thermometer</li> </ul>	<ul style="list-style-type: none"> <li>recognising the sun as a source of light</li> <li>constructing sundials and investigating how they work</li> <li>describing timescales for the rotation of the Earth</li> <li>modelling the relative sizes and movement of the sun, Earth and moon</li> </ul>	<ul style="list-style-type: none"> <li>recognising characteristics of living things such as growing, moving, sensitivity and reproducing</li> <li>recognising the range of different living things</li> <li>sorting living and non-living things based on characteristics</li> <li>exploring differences between living, once living and products of living things</li> </ul>	<ul style="list-style-type: none"> <li>investigating how liquids and solids respond to changes in temperature, for example water changing to ice, or melting chocolate</li> <li>exploring how changes from solid to liquid and liquid to solid can help us recycle materials</li> <li>predicting the effect of heat on different materials</li> </ul>
	Primary Connections Units	<u>Heating Up</u>	<u>Night and Day</u>	<u>Feathers, fur or leaves?</u>	<u>Melting Moments</u>
	Focus Content for unit <b>Will need reviewing by Eden Hill Staff</b>	<p><b>Hot stuff</b> During this term students investigate how Science knowledge helps people to understand the effects of their actions. Students will:</p> <ul style="list-style-type: none"> <li>describe ways that heat is produced</li> <li>identify changes that occur in everyday situations due to heating</li> <li>explore how heat is transferred through solids and liquids</li> <li>identify questions in familiar contexts that can be investigated scientifically and predict what might happen</li> <li>work in groups to plan and discuss things that might happen during an investigation</li> <li>work in groups, with teacher guidance, to safely carry out simple investigations</li> <li>make and then record observations and measurements in tables and column graphs</li> <li>identify and describe patterns from column graphs and relate to everyday experiences</li> <li>reflect on the investigation</li> <li>appreciate the need for a fair test</li> <li>represent and communicate ideas using labelled diagrams, procedures, cut-away diagrams, models and/or simple reports</li> <li>understand how science knowledge can impact on everyday situations and decisions.</li> </ul>	<p><b>Spinning Earth</b> During this term students recognise that observation is an important part of exploring and investigating the things and places around us. Students will:</p> <ul style="list-style-type: none"> <li>investigate the position of the Earth and sun in the solar system and recognise the sun as a source of light</li> <li>model the relative sizes of the Earth, sun and moon</li> <li>appreciate that the Earth rotates once each day and that the sun does not move</li> <li>explore the relationship between the Earth and sun and how this gives day and night across the world</li> <li>work in groups to plan and safely carry out simple investigations</li> <li>make and record observations and measurements in tables and column graphs</li> <li>compare results with predictions, suggesting possible reasons for findings</li> <li>represent and communicate ideas using labelled diagrams, models and simple reports</li> <li>research how knowledge of astronomy has been used by some Aboriginal and Torres Strait Islander peoples.</li> </ul>	<p><b>Is it living?</b> During this term students make predictions and describe patterns and relationships as they investigate living and non-living things. Students will:</p> <ul style="list-style-type: none"> <li>recognise the characteristics of living things</li> <li>distinguish living things from non-living things</li> <li>appreciate the difference between non-living things and things that were once living</li> <li>sort living and non-living things based on observable characteristics</li> <li>identify questions in familiar contexts that can be investigated scientifically</li> <li>make predictions and compare results with predictions</li> <li>record and present observations in tables and column graphs</li> <li>represent and communicate ideas using labelled diagrams and simple reports</li> <li>understand the effects of their actions on living things</li> <li>research Aboriginal and Torres Strait Islander peoples' knowledge of the local natural environment, such as the characteristics of plants and animals.</li> </ul>	<p><b>What's the matter?</b> During this term students explore the observable characteristics of liquids and solids as they make predictions and describe patterns and relationships. They understand why particular materials are chosen by product designers as insulators. Students will:</p> <ul style="list-style-type: none"> <li>investigate how solids and liquids change when temperature increases and decreases</li> <li>investigate the best materials to be used as insulators</li> <li>identify questions in familiar contexts that can be investigated scientifically and predict what might happen</li> <li>work in groups to plan and discuss things that might happen during an investigation</li> <li>suggest ways to plan and conduct safe and fair investigations about the characteristics of liquids and solids</li> <li>work in groups, with teacher guidance, to safely carry out simple investigations</li> <li>make and then record observations and measurements in tables and column graphs</li> <li>identify patterns from column graphs</li> <li>reflect on the investigation and appreciate the need for a fair test</li> <li>represent and communicate ideas using labelled diagrams, models and simple reports.</li> </ul>
Make judgments and use feedback	Assessment and Moderation	Term 1	Term 2	Term 3	Term 4
			Formal Reports Science Inquiry Skills Physical Sciences (Even Years) Earth and Space Sciences (Odd Years)	Sample for Evidence for Reporting to be moderated in cells	Formal Reports Science Inquiry Skills Science as Human Endeavour Biological Sciences (Even Years) Chemical Sciences (Odd Years)

## Year 3 Content Descriptors and Elaborations - Science Understanding Content Descriptors In Term Planner

Science Inquiry Skills				
Questioning and Predicting	1	2	3	4
<b>With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge (ACSIS053)</b>				
<ul style="list-style-type: none"> <li>choosing questions to investigate from a list of possibilities</li> <li>jointly constructing questions that may form the basis for investigation</li> <li>listing shared experiences as a whole class and identifying possible investigations</li> <li>working in groups to discuss things that might happen during an investigation</li> </ul>				
Planning and conducting	1	2	3	4
<b>Suggest ways to plan and conduct investigations to find answers to questions (ACSIS054)</b>				
<ul style="list-style-type: none"> <li>working with teacher guidance to plan investigations to test simple cause-and-effect relationships</li> <li>discussing as a whole class ways to investigate questions and evaluating which ways might be most successful</li> </ul>				
<b>Safely use appropriate materials, tools or equipment to make and record observations, using formal measurements and digital technologies as appropriate (ACSIS055)</b>				
<ul style="list-style-type: none"> <li>recording measurements using familiar formal units and appropriate abbreviations, such as seconds (s), grams (g), centimetres (cm)</li> <li>using a variety of tools to make observations, such as digital cameras, thermometers, rulers and scales</li> <li>discussing safety rules for equipment and procedures</li> </ul>				
Processing and analysing data and information	1	2	3	4
<b>Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends (ACSIS057)</b>				
<ul style="list-style-type: none"> <li>using provided tables to organise materials and objects based on observable properties</li> <li>discussing how to graph data presented in a table</li> <li>identifying and discussing numerical and visual patterns in data collected from students' own investigations and from secondary sources</li> </ul>				
<b>Compare results with predictions, suggesting possible reasons for findings (ACSIS215)</b>				
<ul style="list-style-type: none"> <li>discussing how well predictions matched results from an investigation and sharing ideas about what was learnt</li> </ul>				
Evaluating	1	2	3	4
<b>Reflect on the investigation, including whether a test was fair or not (ACSIS058)</b>				
<ul style="list-style-type: none"> <li>describing experiences of carrying out investigations to the teacher, small group or whole class</li> <li>discussing as a whole class the idea of fairness in testing</li> </ul>				
Communicating	1	2	3	4
<b>Represent and communicate ideas and findings in a variety of ways such as diagrams, physical representations and simple reports (ACSIS060)</b>				
<ul style="list-style-type: none"> <li>communicating with other students carrying out similar investigations to share experiences and improve investigation skill</li> <li>exploring different ways to show processes and relationships through diagrams, models and role play</li> <li>using simple explanations and arguments, reports or graphical representations to communicate ideas to other students</li> </ul>				

## Science As Human Endeavour

Science As Human Endeavour				
Nature and development of science	1	2	3	4
<b>Science involves making predictions and describing patterns and relationships (ACSHE050)</b>				
<ul style="list-style-type: none"> <li>choosing questions to investigate from a list of possibilities</li> <li>jointly constructing questions that may form the basis for investigation</li> <li>listing shared experiences as a whole class and identifying possible investigations</li> <li>working in groups to discuss things that might happen during an investigation</li> </ul>				
Use and Influence of Science	1	2	3	4
<b>Science knowledge helps people to understand the effect of their actions (ACSHE051)</b>				
<ul style="list-style-type: none"> <li>considering how heating affects materials used in everyday life</li> <li>investigating how science helps people such as nurses, doctors, dentists, mechanics and gardeners</li> <li>considering how materials including solids and liquids affect the environment in different ways</li> <li>deciding what characteristics make a material a pollutant</li> <li>researching Aboriginal and Torres Strait Islander people's knowledge of the local natural environment, such as the characteristics of plants and animals</li> </ul>				