

Spinning in space unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ENGAGE	Lesson 1 Our place in space	represent their current understanding about <ul style="list-style-type: none"> • how day and night are caused on Earth • the shapes, sizes and movements of the Sun, Earth and Moon. 	<ul style="list-style-type: none"> • contribute to discussions about day and night • understand the purpose and features of a labelled diagram • create a labelled diagram • contribute to the beginning of a TWLH chart and word wall. 	<ul style="list-style-type: none"> • brainstorm ideas about day and night • discuss ideas and questions for a TWLH chart • create and label a diagram of the Sun, Earth and Moon • contribute to a list of words to develop a word wall. 	Diagnostic assessment 'Day and Night: What do you think?' (Resource sheet 1) Labelled diagram
	Lesson 2 Shapes and sizes	<ul style="list-style-type: none"> • describe the spherical shape of the Sun, Earth and Moon • compare the sizes of the Sun, Earth and Moon • explain why the Sun looks the same size as the Moon when viewed from Earth. 	<ul style="list-style-type: none"> • contribute to discussions on the shape and size of the Sun, Earth and Moon • use 3-D models to develop understanding of the shape and size of the Sun, Earth and Moon • demonstrate their understanding of scale in relation to representing the size of the Sun, Earth and Moon. 	<ul style="list-style-type: none"> • use spherical objects to explore why the Sun and Moon appear to be the same size when viewed from Earth • investigate the sizes and positions of the Sun, Earth and Moon • view images of the Sun, Earth and Moon. 	Formative assessment Science journal entries Labelled diagram

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EXPLORE	Lesson 3 Shadows at play	<ul style="list-style-type: none"> describe changes in direction and length of shadows during a day describe the apparent movement of the Sun from east to west across the sky describe how a shadow is formed by blocking light. 	<ul style="list-style-type: none"> discuss observations of light and shadows record ideas about light and shadows. 	Session 1 Chasing shadows <ul style="list-style-type: none"> play shadow tag observe and discuss changes in shadows around the school. Session 2 The travelling light show <ul style="list-style-type: none"> compile a list of light sources explore how light travels in straight lines investigate the position and size of shadows. 	Formative assessment Science journal entries Labelled diagram
	Session 1 Chasing shadows Session 2 The travelling light show				

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EXPLAIN	Lesson 4 In a spin	<ul style="list-style-type: none"> explain how Australia experiences day and night as the Earth spins on its axis once every 24 hours demonstrate through role-play that the spinning of the Earth on its axis causes day and night demonstrate through role-play that the Earth orbits around the Sun and the Moon orbits around the Earth. 	<ul style="list-style-type: none"> use oral language and role-play to represent their understanding of the spinning of the Earth use scientific vocabulary appropriately in their writing and talking identify limitations of models in showing the spinning of the Earth. 	<ul style="list-style-type: none"> model the spinning of the Earth on its axis as it orbits the Sun create a role-play to represent their understanding of the cause of day and night. 	Formative assessment Role-play Labelled diagram

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ELABORATE	<p>Lesson 5 Investigating shadows</p> <p>Session 1 Planning it out</p> <p>Session 2 One o'clock, two o'clock...</p> <p>Session 3 Shadows rock!</p>	<ul style="list-style-type: none"> plan and conduct an investigation of the effect of time of day on length and direction of shadows record observations and measurements construct a graph to represent their results. 	<ul style="list-style-type: none"> discuss and compare ideas about how shadows change during a day use a table and a column graph to represent findings describe the features of fair testing summarise results of an investigation. 	<p>Session 1 Planning it out</p> <ul style="list-style-type: none"> plan an investigation select variables to be changed, measured or kept the same. <p>Session 2 One o'clock, two o'clock...</p> <ul style="list-style-type: none"> conduct an investigation observe and record results. <p>Session 3 Shadows rock!</p> <ul style="list-style-type: none"> create a table with measurements of shadows create a column graph to represent and compare measurements discuss and summarise results of investigation. <p>'Shadow stick investigation planner' (Resource sheet 2)</p>	<p>Summative assessment</p> <p>'Shadow stick investigation planner' (Resource sheet 2)</p>

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EVALUATE	Lesson 6 Posters on parade	<ul style="list-style-type: none"> describe the shapes and sizes of the Sun, Earth and Moon describe the apparent movement of the Sun from East to West describe the changes in length and direction of shadows during the day. 	<ul style="list-style-type: none"> use written, oral and visual language to describe their understanding of the Sun, the Earth and the Moon moving in space construct a poster to represent and communicate their ideas and what they learnt about the Sun, Earth and Moon, and day and night reflect on their learning through a science journal entry. 	<ul style="list-style-type: none"> review and discuss the unit review 'Day and Night: What do you think?' (Resource sheet 1) construct a poster to represent their knowledge and understanding of the Sun, Earth and Moon, and day and night reflect on their learning during this unit. <p>'Day and Night: What do you think?' (Resource sheet 1)</p>	<p>Summative assessment</p> <p>'Day and Night: What do you think?' (Resource sheet 1)</p> <p>Poster</p> <p>Science journal reflection</p>