Light fantastic unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to		
ENGAGE	**Lesson 1** Light ideas ***Session 1*** Illumination ***Session 2*** In the dark ***Session 3*** Light up my life	represent their current understanding as they • describe how light travels • discuss how light helps our eyes to see • identify sources and uses of light in and around the home.	• contribute to discussions about dark and light • record ideas using a think-box strategy • contribute to a science chat-board and word wall • use a table to represent different sources and uses of light.	***Session 1*** Illumination • discuss what they think they know about light • share ideas using a think-box strategy • record ideas in the science chat-board ***Session 2*** In the dark • discuss being in the dark • contribute ideas about what enables us to see ***Session 3*** Light up my life • explore light sources in and around the home • record ways that different light sources are used at home.	**Diagnostic assessment** Science journal entries Class discussion Science chat-board and word wall contribution Think-box responses

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EXPLORE	**Lesson 2** Shining light	• identify how to modify a peek-box to see an object • describe how objects reflect light into our eyes allowing the objects to be seen.	• participate in whole class and small group discussions • use oral and written language to clarify and represent ideas about light • represent their thinking by using key vocabulary related to light.	• make a peek-box to explore how we see objects • draw a ray diagram of light travelling in their peek-box.	**Formative assessment** Science journal entries Class discussion Science chat-board and word wall contribution Ray diagram
	Lesson 3 Mirror, mirror	• identify that light travels in straight lines • use mirrors to reflect light in different directions • use ray diagrams to show the reflection of light by a mirror.	• discuss observations of how light travels • record ideas about light travelling • use talk to reason about how light travels • extend vocabulary related to light.	• explore how to make light travel around a corner using mirrors • use this knowledge to devise their own challenges.	**Formative assessment** Science journal entries Class discussion Science chat-board and word wall contribution Ray diagram

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EXPLORE	**Lesson 4** Make way for the light	• explore materials and how they effect light • sort materials according to their ability to affect the path of light • explain that light can be transmitted by a range of materials • discuss the use of the different materials for transmitting light • sort materials into transparent, translucent and opaque categories.	• describe the amount of light passing through materials according to what can be seen through the material • discuss observations of how light is affected by different materials • use a table to record and sort information • use talk to provide reasons for classifying materials into transparent, translucent and opaque.	• explore how the path of light is affected by different materials • sort materials into transparent, translucent and opaque categories.	**Formative assessment** Science journal entries Class discussion Science chat-board and word wall contribution 'Passing through?' (Resource sheet 5)

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EXPLAIN	**Lesson 5** Sneaky spy	• identify sources of light • explain that light travels in straight lines • explain that we see objects when light reflects off the object into our eyes • draw a ray diagram to explain how light from a source is reflected off an object into the eye • construct a periscope to see an object around a corner.	• represent the path of a light beam using a ray diagram • use scientific vocabulary when explaining how light travels.	• construct a periscope to demonstrate light travelling in straight lines and being reflected • record and represent their understanding about light using a ray diagram and a written description.	**Formative assessment** Science journal entries Class discussion Science chat-board and word wall contribution 'Periscope pal' (resource sheet 8)

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ELABORATE	**Lesson 6** Big shadow, little shadow	• conduct an investigation of shadow height showing a need for fair testing • describe how to make a shadow longer or shorter • explain how the height of a shadow can change by changing the distance from a light source to an object • identify variables affecting the height of shadows.	• participate in discussions about variables that affect shadows • record findings in a table • use a graph to represent findings • identify the purpose and featured of a graph.	• work in teams to plan and set up an investigation of shadow height • measure the height of a shadow as the distance from the torch to the object changes • observe, record and interpret results • explain how a shadow is formed because light travels in straight lines.	**Summative assessment** Science journal entries Class discussion Science chat-board and word wall contribution 'Shadow height investigation planner' (Resource sheet 9)

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EVALUATE	**Lesson 7** Light thoughts ***Session 1*** Light loop ***Session 2*** Shadow puppets	• recognise light sources • describe uses of light in the community • describe that light travels in straight lines and reflects off mirrors • describe transparent, translucent and opaque materials.	• use scientific terms and key vocabulary to complete a word loop • make an oral presentation as a shadow play to communicate their understanding about light.	***Session 1*** Light loop • review this unit using the science chat-board, word wall and other resources developed throughout the unit • participate in a word loop activity. ***Session 2*** Shadow puppets • create and perform a shadow play to represent their knowledge and understanding of light.	**Summative assessment** Science journal entries Class discussion Science chat-board and word wall contribution 'Light fantastic word loop cards (Resource sheet 11) Shadow play