It's electrifying unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ENGAGE	**Lesson 1** What makes it go?	represent their current understanding as they • identify evidence that shows that a battery is working • explain their existing ideas of how a battery works • describe how they think a battery-operated device works • explain their existing ideas of how a torch works • explain what they know about how electric circuits work.	• record information and ideas about battery-operated devices • represent what they think they know about how a torch works in a cutaway diagram • contribute to the class scientists' chat-board to represent their understanding of how electric circuits work, including further questions to investigate.	• observe and record information about the working of different battery-operated devices • draw a cutaway diagram of how they think a torch works • share and discuss observations.	**Diagnostic assessment** Cutaway diagram Class scientists' chat-board contributions Science journal entries

PrimaryConnections®
Linking science with literacy

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLORE	**Lesson 2** Light up my life	• make predictions about circuits that will light a light bulb • construct and test circuits and record their observations • compare their representations of circuits.	• record predictions, observations and explanations about circuits • use writing, drawing and modelling to clarify ideas about designs of circuits • represent a circuit diagram using circuit symbols.	• construct and test circuits • represent a functioning circuit. 'Folded foil wires' (Resource sheet 2)	**Formative assessment** 'PROE record: Lighting up my life' (Resource sheet 1) Explanations to the class Circuit diagrams Science journal entries
	Lesson 3 Light bulb explorers	• describe the structure of a light bulb • label the parts of a light bulb • explain the function of each part of a light bulb.	• create a labelled diagram of a light bulb • interpret a factual text about light bulbs • use oral language to represent scientific ideas about electrical energy • contribute to the construction of a class diagram of how a light bulb works.	• draw a light bulb from memory • draw a light bulb from observation • read about and complete a labelled diagram of a light bulb.	**Formative assessment** Labelled diagrams 'Inside a light bulb' (Resource sheet 3) Science journal entries

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLORE	**Lesson 4** Alessandro Volta: Battery maker	• identify some ways that scientists think and work • understand that scientific explanations develop historically through the contribution of ideas from many scientists • understand that scientific explanations are revised as new evidence emerges.	• understand the purpose and features of a biography • discuss how scientific knowledge develops • represent an understanding of this biography in a chronological list, role-play or researched multimedia presentation.	• read and discuss a biography about Alessandro Volta • discuss the way scientists develop and change their ideas • represent their ideas about the biography.	**Formative assessment** Literacy product based on reading the biography of 'Alessandro Volta: Battery maker' (Resource sheet 4) 'Chronological list: Alessandro Volta' (Resource sheet 5)
EXPLAIN	**Lesson 5** Enacting electrons	• describe the components of a complete circuit • identify the source of electrical energy in a circuit • explain the role of electrons in carrying electrical energy around a circuit • explain that electrical energy is changed into light energy by the bulb.	• show understanding of how a circuit works through participation in a role-play and discussion • represent their understanding through drawing an annotated diagram of a circuit • use scientific vocabulary appropriately in writing and talking.	• participate in a whole-class role-play of an electric circuit • discuss the role of the components of an electric circuit • represent their understanding using a circuit diagram.	**Formative assessment** Circuit diagrams Science journal entries Role-play

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ELABORATE	**Lesson 6** Problem solvers: What's it all about?	• formulate a question and make predictions about whether or not various materials will conduct an electric current • conduct fair tests of materials to see if they are conductors or insulators • identify and describe the types of materials that are conductors and insulators • provide evidence to support their description.	• plan, conduct and represent a fair test to decide if materials are conductors or insulators • summarise their findings about materials investigated • participate effectively in cooperative learning teams and class discussion.	• formulate a question for investigation • construct a circuit and test their question for investigation • observe, record and share results • discuss materials that conduct electrical energy. 'Lab notes: What's this all about?' (Resource sheet 6)	**Summative assessment** Discussion about what question to investigate 'Problem solvers: Investigation planner' (Resource sheet 7) Science journal entries
	Lesson 7 Switched on	• construct two types of electrical switch • explain how switches are used to control the flow of electrical energy around a circuit.	• interpret a procedural text to construct two types of electrical switch • represent their understanding of how switches control the flow of electrical energy in a circuit using a circuit diagram • develop scientific vocabulary about switches.	• discuss the role of switches in an electric circuit • create a circuit diagram including the switch symbol. 'Making switches' (Resource sheet 8)	**Summative assessment** Discussion on switches Science journal entries

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EVALUATE	**Lesson 8** Bright sparks: Sharing what we know	• describe a circuit in terms of components that form a continuous path for the flow of electrons • describe how energy is transferred within an electric circuit • explain the characteristics of conductors and insulators in terms of categories of materials.	• make a labelled model to represent how an electric circuit works • make a presentation to communicate their understanding of electric circuits • use a checklist to reflect on their learning in the unit • list, group and label ideas about their learning in the unit.	• participate in a word loop activity • work in cooperative learning teams to prepare a model of a torch • prepare a description that communicates the main ideas of their model and how an electric circuit works • share models and descriptions with an audience • reflect on their learning during this unit. 'Word loop cards' (Resource sheet 9) *Optional:* 'Torch template' (Resource sheet 10)	**Summative assessment** Presentations based on models Science journal entries 'Bright sparks: Reflecting on my learning' (Resource sheet 11)