

Push-pull unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ENGAGE	Lesson 1 Moving toys	represent their current understanding as they <ul style="list-style-type: none"> describe pushes and pulls that make toys move observe and describe ways of moving toys contribute to the development of a class table. 	<ul style="list-style-type: none"> contribute to discussions about pushes and pulls understand the purpose and features of a table use a table to record observations about pushes and pulls. 	<ul style="list-style-type: none"> work in teams to explore how toys move share questions about how toys move use arrows to show pushes and pulls create a list of push and pull words to develop a word wall. 	Diagnostic assessment ‘Push and pull pictures’ (Resource sheet 1)
	Lesson 2 Investigating pushes and pulls at home (optional)	<ul style="list-style-type: none"> describe pushes and pulls that make objects move investigate ways to move objects and record their ideas. 	<ul style="list-style-type: none"> use oral, written and visual language to report observations and reflect on experiences of pushes and pulls at home record information in a table retrieve information from a table. 	Session 1 Push-pull pursuit <ul style="list-style-type: none"> review the pushes and pulls investigated in Lesson 1 investigate pushes and pulls at home. Session 2 Guessing game <ul style="list-style-type: none"> play a guessing game about pushes and pulls found at home. 	Formative assessment ‘Push-pull pursuit’ (Resource sheet 2)
EXPLORE	Session 1 Push-pull pursuit				
	Session 2 Guessing game				

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EXPLORE	Lesson 3 Water, water everywhere	<ul style="list-style-type: none"> identify that gravity pulls down on objects explain that water can push up on objects in water. 	<ul style="list-style-type: none"> contribute to discussions about why objects sink or float create force-arrow diagrams to indicate push and pull forces. 	<ul style="list-style-type: none"> reflect on and discuss experiences with water push air-filled objects (balls) under water to experience the push of water feel the difference between a heavy object suspended in air and then in water create a labelled force-arrow diagram to indicate push or pull forces. 	Formative assessment Science journal entries
	Lesson 4 What sinks? What floats? (optional)	<ul style="list-style-type: none"> make observations about objects that sink or float in water and record their findings identify ways to change an object that sinks into one that floats recognise that the shape of an object influences whether it will sink or float. 	<ul style="list-style-type: none"> contribute to discussions about the push of water and how to change an object that sinks into one that floats use language and visual representations to record their ideas about sinking and floating use a table to record predictions, observations and explanations. 	<ul style="list-style-type: none"> work in teams to investigate objects that sink or float in water investigate how to change a sinker into a floater. 	Formative assessment Science journal entries 'What sinks? What floats?' (Resource sheet 3)

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EXPLORE	Lesson 5 Floating on air	<ul style="list-style-type: none"> identify that air is a substance that takes up space explain that air pushes up against falling objects explain that gravity pulls things down recognise that the shape and orientation of an object can influence how it falls identify things to keep the same in a fair test. 	<ul style="list-style-type: none"> contribute to discussions about how air can push create a force-arrow diagram to record their ideas about how air can push on a falling object. 	<ul style="list-style-type: none"> explore where air can be found observe and discuss the result of placing a glass containing a tissue upside down in a container of water observe and discuss the differences in the fall of a crumpled sheet of paper and a flat sheet. 	Formative assessment Science journal entries

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EXPLAIN	Lesson 6 Push meets pull	<ul style="list-style-type: none"> describe their understanding of 'push', 'pull', 'floating' and 'sinking' understand that the upward push of water and air on objects helps them to float in water or air understand that the downward pull of gravity on objects helps them to sink or fall to the ground. 	<ul style="list-style-type: none"> contribute to discussions about forces create force-arrow diagrams to indicate push-pull forces complete a cloze activity using the terms 'force' and 'gravity' use subject-specific vocabulary appropriately in their writing. 	<ul style="list-style-type: none"> reflect on their observations and experiences of pushes and pulls discuss the terms 'force' and 'gravity' represent push and pull forces using force-arrow diagrams. 	Formative assessment 'Fantastic forces' (Resource sheet 4)

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ELABORATE	Lesson 7 Helicopter test flights	<ul style="list-style-type: none"> explain that air pushes up against falling objects identify the push of air and the pull of gravity acting on a falling object test a variable in an investigation. 	<ul style="list-style-type: none"> contribute to discussions about the factors that affect the fall of a paper helicopter through air record and report on an investigation into the factors that affect the fall of a paper helicopter through air. 	<ul style="list-style-type: none"> work in teams to investigate what factors affect the fall of a paper helicopter identify things (variables) to change and keep the same in an investigation record and discuss observations show on a diagram where pushes and pulls act on a falling paper helicopter. <p>'Paper helicopters' (Resource sheet 5)</p>	<p>Summative assessment</p> <p>Science journal records of investigation</p>

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EVALUATE	Lesson 8 Pulling it all together	<ul style="list-style-type: none"> identify and describe the effects of push and pull forces in different situations explain that air and water push against objects explain that gravity pulls objects to the ground. 	<ul style="list-style-type: none"> contribute to discussions about push and pull forces use oral, written and visual language to clarify understanding, describe the effects of push and pull forces, and reflect on their own learning represent push and pull forces using labelled force-arrow diagrams. 	<ul style="list-style-type: none"> review this unit by using the class science journal, word wall and 'Making things move' class table repeat 'Push and pull pictures' assessment task (Resource sheet 1) reflect on their learning during this unit. 	Summative assessment 'Push and pull pictures' (Resource sheet 1)