

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ENGAGE	Lesson 1 Mess scene investigation	represent their current understanding as they <ul style="list-style-type: none"> identify evidence of changes that occur describe their existing ideas of what causes change explain why they think changes can or cannot be reversed. 	<ul style="list-style-type: none"> contribute to discussions about changes to common materials identify the purpose and features of science journal make predictions and record observations in the class science journal understand the purpose and features of summary and a report. 	<ul style="list-style-type: none"> observe and record information about some common changes to materials share and discuss observations. 	Diagnostic assessment Through discussion share ideas and questions about changes to materials Science journal entries Class discussion Team summary Word wall contribution

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLORE	Lesson 2 Purely physical	<ul style="list-style-type: none"> plan an investigation, with teacher support 	<ul style="list-style-type: none"> understand the purpose and features of a table 	Session 1 Mostly melting	Formative assessment Science journal entries Class discussion PROE responses Role-play representation
	Session 1 Mostly melting	<ul style="list-style-type: none"> make predictions about what factors will make an ice cube melt fastest and a liquid evaporate fastest 	<ul style="list-style-type: none"> use oral, written and visual language to record and discuss investigation results 	<ul style="list-style-type: none"> test whether melted or frozen objects can be returned to their original state 	
	Session 2 Playing particles	<ul style="list-style-type: none"> observe, record and interpret the results of their investigation 	<ul style="list-style-type: none"> engage in a discussion to compare ideas, and use evidence from an investigation to explain that temperature has an effect on phase change 	<ul style="list-style-type: none"> observe and record the factors that make an ice cube melt the fastest. 	
	Session 3 Evocative evaporation	<ul style="list-style-type: none"> describe the effect of temperature on phase change explain that the same substance can change state and be a liquid, a solid, or a gas explain why they can smell evaporated liquids. 	<ul style="list-style-type: none"> role-play their understanding of the effect of temperature on phase change by using representational models of particles. 	Session 2 Playing particles <ul style="list-style-type: none"> represent what happens when a solid melts. Session 3 Evocative evaporation <ul style="list-style-type: none"> discuss why they can smell evaporated liquids observe and record the factors that make a liquid evaporate the fastest describe what happens when a liquid evaporates. 	

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLORE	Lesson 3 Slippery solutions	<ul style="list-style-type: none"> plan and conduct an investigation of the effect of the quantity of water on the amount of salt dissolved follow directions to investigate a chemical reaction that produces the gas carbon dioxide observe, record and interpret the results of their investigations identify the features that made their investigation a fair test explain that chemical change only occurs when all the necessary substances are present. 	<ul style="list-style-type: none"> identify the features and purpose of a procedural text follow a procedural text to complete an investigation use oral, written and visual language to record and discuss investigation results engage in discussion to compare ideas and relate evidence from an investigation to explanations about dissolving and reacting demonstrate understanding of dissolving and reacting using science journal entries. 	<p>Session 1 Delightful dissolving</p> <ul style="list-style-type: none"> observe salt dissolving in water devise and conduct tests to retrieve the salt in its original form. <p>Session 2 Gas bags</p> <ul style="list-style-type: none"> observe and record what happens when a bicarbonate soda solution meets a tartaric acid solution. 	<p>Formative assessment</p> <p>Science journal entries</p> <p>Class discussion</p> <p>‘Salt dissolving table’ (Resource sheet 1)</p>
	Session 1 Delightful dissolving				
	Session 2 Gas bags				

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLORE	Lesson 4 Candle capers	<ul style="list-style-type: none"> observe and discuss the features of a candle make predictions about which features of candles allow them to burn plan an investigation, with teacher support, of the effect of the amount of air available on the burning of a candle observe, record and interpret the results of their investigation describe the conditions that are necessary for a candle to burn. 	<ul style="list-style-type: none"> use oral, written and visual language to report observations of candles identify the purpose and features of a graph engage in discussion to compare ideas and develop understanding about conditions that are necessary for a candle to burn demonstrate understanding of candles and burning through science journal entries. 	<ul style="list-style-type: none"> observe candles and their separate parts investigate how candles need air to keep burning. 	Formative assessment Science journal entries Class discussion 'Candle capers' graph

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EXPLAIN	Lesson 5 Classifying changes	<ul style="list-style-type: none"> • create categories to group different changes • explain the difference between physical and chemical change • describe reactions as physical or chemical change, and give reasons for their choice. 	<ul style="list-style-type: none"> • demonstrate the understanding of the difficulties of classification systems through discussions • engage in discussion to compare ideas about how to classify changes and provide relevant arguments to support their conclusions • use scientific vocabulary appropriately in their writing and talking • create a Venn diagram to present information. 	<ul style="list-style-type: none"> • discuss descriptions of physical and chemical change • classify changes as physical or chemical changes. 	Formative assessment Science journal entries Class discussion Venn diagram 'Changes card sort' (Resource sheet 3)

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
ELABORATE	Lesson 6 Fizz wizz	<ul style="list-style-type: none"> formulate a question and make predictions about what factors affect the speed of a chemical reaction plan and conduct fair tests of different factors to see if they affect the speed of a chemical reaction make and record observations construct and identify patterns in a graph provide evidence to support their conclusions. 	<ul style="list-style-type: none"> represent results to decide what factors affect the speed of a chemical reaction summarise their findings about what factors affect the speed of a chemical reaction engage in discussion to compare ideas and provide relevant arguments to support their conclusions. 	<ul style="list-style-type: none"> formulate a question for investigation plan and set up an investigation to determine factors that affect the rate of reactions observe, record and share results. 	Summative assessment Science journal entries Class discussion 'Tablet investigation planner' (Resource sheet 4)

Change detectives unit overview

		SCIENCE OUTCOMES	LITERACY OUTCOMES	LESSON SUMMARY	ASSESSMENT OPPORTUNITIES
		Students will be able to	Students will be able to	Students	
EVALUATE	Lesson 7 Intrepid reporters	<ul style="list-style-type: none"> describe different changes and why they have occurred identify changes as physical or chemical changes describe investigations and support conclusions with evidence. 	<ul style="list-style-type: none"> prepare an analytical report of their investigations which demonstrates understanding of physical and chemical changes summarise their findings concisely use language to clarify their understanding and reflect on their experiences use language and visual representation to communicate their ideas. 	<ul style="list-style-type: none"> create a final report of their 'Mess scene' findings reflect on their learning during the unit. 	<p>Summative assessment</p> <p>Science journal entries</p> <p>Class discussion</p> <p>'Mess scene' investigation report</p>