Desert Survivors – Stage 3

Living World Strand

Term	1	2	3	4	Weeks	1	2	3	4	5	6	7	8	9	10	11

Outcome	Lesson Sequence – Overview	Resources	Word Wall
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • explain their existing ideas about desert environments that early explorers might have visited • identify challenges for survival in desert environments and pose questions to clarify their understanding. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • contribute to class discussions about possible adaptations of plants and animals to desert environments • use talk to share their ideas	**Lesson 1** Deadly deserts – Lesson focus p13 • To capture students' interest and find out what they think they know about how living things have structural features and adaptations that help them to survive in their environment. • To elicit students' questions about how living things survive in desert environments. Students: • *discuss Burke and Wills' exploration of Australia* • *identify features of desert environments* • *explain what structural features they think help living things survive in a desert.*	For the class • class science journal • word wall • TWLH chart • 1 enlarged copy of 'Australia's red heart' (Resource sheet 1) • multimedia resources (see 'Preparation') • *optional:* cards or paper strips for word wall labels For each student • science journal • *optional:* waterproof marking pen	acacia adaptations animals arid avoiders Australia behaviour camel camouflage climate condensation desert desiccation drying

• contribute to the class TWLH chart and word wall • understand the purpose and features of a science journal, TWLH chart and word wall.			ecosystem endurers environments evolution evaporation explorers fauna features flora graph harshness heat Indigenous investigation journal leaves observation plants
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • plan an investigation, with teacher support • make predictions about which cloth will dry out fastest • observe, record and interpret the results of their investigation • identify that cloths with smaller surface areas retain water for longer • make evidence-based claims about whether having smaller leaves can help plants survive in the desert. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions	Lesson 2 <u>Dodging desiccation – Lesson focus p21</u> • To provide students with hands-on, shared experiences of how having smaller leaves can help plants avoid desiccation. Session 1 Bagging leaves <u>Students:</u> • *explore how plants lose water through their leaves.* Session 2 Soaking cloths <u>Students:</u> • *work in teams to investigate if cloths with smaller surface areas lose less water.* Session 3 Moist in the middle <u>Students:</u> • *display their results using a graph and use it to make predictions* • *make evidence-based claims on whether having smaller leaves helps plants to survive in deserts.*	Session 1 For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart • permanent marking pen For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 2 plastic bags • a leafy branch (see 'Preparation') • *optional:* 1 waterproof marking pen Session 2 For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart	

• understand the purpose and features of a table • follow a procedural text to complete an investigation • use oral, written and visual language to record and discuss investigation results • understand the purpose and features of a graph • engage in discussion to compare claims.		• 1 enlarged copy of 'Comparing plants and animals' (Resource sheet 2) • 1 enlarged copy of 'Surface drying investigation planner' (Resource sheet 3) • water • at least 1 pair of digital scales (see 'Preparation') • 1 timing device (eg, a class clock) • *optional:* leaves from different species (see 'Preparation') For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • each team's sample plastic bags from Session 1 • 1 copy of 'Surface drying investigation planner' (Resource sheet 3) • 2 absorbent cloths (eg, 36 cm x 36 cm) • 2 paper clips • *optional:* 1 waterproof marking pen Session 3 For the class • class science journal • word wall • TWLH chart	predator prediction prey rain science semi–arid spinifex storing strategies structures surface area survivors variables water

		• team skills chart • team roles chart • 1 enlarged copy of 'Surface drying investigation planner' (Resource sheet 3) from Session 2 • 1 enlarged piece of graph paper For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • copy of 'Surface drying investigation planner' (Resource sheet 3) from Session 2 • cloths from Session 2 • 1 piece of graph paper	
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • plan and conduct an investigation of the effect of surface area on heat loss • make predictions about which pool of water will lose heat fastest • observe, record and interpret the results of their investigation	Lesson 3 <u>Way too warm – Lesson focus p38</u> • To provide students with hands-on, shared experiences of how having a larger surface area can help animals to cool down. <u>Students:</u> • *work in teams to investigate whether increasing surface area increases heat loss* • *discuss and compare their results from the investigation.*	For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart • 1 enlarged copy of 'Comparing plants and animals' (Resource sheet 2) from Lesson 2, Session 2 • 1 enlarged copy of 'Surface cooling investigation planner' (Resource sheet 4) • hot water (<50°C)	

• identify that pools of water with larger surface areas lose heat faster • make evidence-based claims about whether having larger ears can help animals survive in the desert. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • use oral, written and visual language to record and discuss investigation results • record data in a table and represent it in a graph to interpret findings • engage in discussion to compare claims • demonstrate understanding of how to identify adaptations using science journal entries.		For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 1 copy of 'Surface cooling investigation planner' (Resource sheet 4) • a cup and a plate of similar material with high sides (see 'Preparation') • 1 timing device (eg, a stopwatch or a watch with a second hand) • 1 thermometer • 500 mL hot water • 1 x 250 mL measure	
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • plan and conduct an investigation of the effect of camouflage on predation	Lesson 4 Colourful creatures- Lesson focus p48 • To provide students with hands-on, shared experiences of how living things adapt to other living things through the use of colour.	Session 1 For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart	

• use confetti to make predictions about how camouflage can affect the visibility of an object • observe, record and interpret the results of their investigation • make evidence-based claims about whether being camouflaged can help animals survive in the desert • identify that there are different selective pressures which can influence the appearance of an animal, including choice of mate. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • use oral, written and visual language to record and discuss investigation results • record data in a table and represent it in a graph to interpret findings • engage in discussion to compare claims and develop understanding about	Session 1 Perspicacious predators <u>Students:</u> • *work in teams to investigate whether being camouflaged helps living things survive in deserts* • *discuss and compare their results to make evidence-based claims.* Session 2 Ravishing or ridiculous? <u>Students:</u> • *discuss claims explaining why some animals are not camouflaged.*	• 1 enlarged copy of 'Camouflage investigation planner' (Resource sheet 5) For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 1 copy of 'Camouflage investigation planner' (Resource sheet 5) • 1 A3 piece of white paper • 1 A3 piece of newspaper • piece of newspaper to make confetti • piece of white paper to make confetti • 1 hole punch • 1 timing device (eg, a stopwatch or a watch with a second hand) Session 2 For the class • class science journal • word wall • TWLH chart • 1 enlarged copy of 'Peacock tales' (Resource sheet 6) • 5 x A4 sheets of paper (see 'Preparation') • *optional:* photos of animals (see 'Preparation') For each team	

how different factors can influence the structural features of an animal • demonstrate understanding of how to identify adaptations using science journal entries.		• science journal	
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • review their understanding of how plants and animals survive in desert environments • identify structural features and adaptations that help camels to survive in a desert environment • identify the difference between physical and behavioural adaptations. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • use written and oral language to demonstrate their	**Lesson 5** Ships of the desert – Lesson focus p64 • To support students to represent and explain their understanding of how structural features and adaptations help living things to survive in their environment. • To introduce current scientific views about physical and behavioural adaptations. Students: • *identify why camels were used for explorations of Central Australia* • *make claims about which structural features help camels to survive in desert environments* • *discuss behavioural and structural adaptations.*	For the class • class science journal • word wall • TWLH chart • team roles chart • team skills chart • 1 enlarged copy of 'Our ideas' (Resource sheet 7) • 1 enlarged copy of 'Camel features' (Resource sheet 8) For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 1 copy of 'Our ideas' (Resource sheet 7) • 1 copy of 'Camel features' (Resource sheet 8)	

understanding of adaptations • use scientific language to describe different types of adaptations • contribute to class discussions about structural features and adaptations that help camels to survive in a desert environment.			
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • research information about a particular desert species • interpret evidence to identify if certain structural features can be considered adaptations • identify and describe key adaptations of a desert species. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • participate in collaborative learning teams to collect information	# Lesson 6 <u>Species specialist – Lesson focus p72</u> • To support students to research information about the structural features and adaptations of a particular desert animal or plant. <u>Students:</u> • *work in teams to plan and conduct research into a particular desert species* • *consider how to make evidence-based claims about desert adaptations.*	For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart • 1 enlarged copy of 'Camel features' (Resource sheet 8) from Lesson 5 • 1 hat or box (see 'Preparation') For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • resources to do research on structural features of different species in deserts of Australia	

on a particular desert species • read and analyse information on desert adaptations • identify the purpose and features of an annotated diagram.			
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • formulate a question for investigation to gather evidence about adaptations • plan and conduct a fair test to test their ideas • make and record observations • construct and identify patterns in a graph • provide evidence to support their conclusions. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • represent results to interpret them and compare them to their predictions	# Lesson 7 Checking claims – Lesson focus p77 • To support students to plan and conduct an investigation of whether or not a structural feature of an animal is an adaptation for surviving in a desert environment. Students: • *identify questions for investigation and gather evidence about adaptations to desert environments* • *work in teams to plan and conduct their investigation* • *observe, record and share the results of their investigation.*	For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart • 1 enlarged copy of 'Adaptation investigation planner' (Resource sheet 9) For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 1 copy of 'Adaptation investigation planner (Resource sheet 9) • equipment for an open investigation (see 'Preparation')	

• summarise their findings and relate them to the context of desert adaptations • engage in discussion to compare ideas and provide relevant arguments to support their conclusions.			
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • interpret data to make claims about key adaptations of desert species • provide evidence to support their identification of adaptations • identify adaptations of different species living in desert environments. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • understand the purpose and features of an oral presentation • use talk and an annotated diagram	# Lesson 8 <u>Powerful presentations – Lesson focus p83</u> • To support students to present their evidence-based claims about different structural features and adaptations for surviving in a desert environment, and to reflect on their learning during the unit. <u>Students:</u> • *present evidence-based claims about adaptation to desert environments* • *compare and discuss results to draw conclusions about patterns of adaptation.*	For the class • class science journal • word wall • TWLH chart • team skills chart • team roles chart For each team • role wristbands or badges for Director, Manager and Speaker • each team member's science journal • 1 copy of 'Adaptation investigation planner (Resource sheet 9) • equipment for an open investigation (see 'Preparation') • equipment to make and present visual aids for an oral presentation.	

to communicate their findings • contribute to a class discussion to compare adaptations of different species to Australian deserts.			
ST3-4LW-S examines how the environment affects the growth, survival and adaptation of living things • identify adaptations of different desert species • explain their ideas about which structural features of animals might help them survive in a desert environment • discuss and compare their ideas. ST3-1WS-S plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions • use oral, written and visual forms to present their understanding of adaptations • reflect on their learning in a science journal entry.	# Lesson 9 <u>Plausible possibilities – Lesson focus p87</u> • To provide opportunities for students to represent what they know about how living things have structural features and adaptations that help them to survive in their environment, and to reflect on their learning during the unit. <u>Students:</u> • *describe the hypothetical adaptation of a new animal to a desert environment* • *participate in a class discussion to reflect on their learning during the unit.*	For the class • class science journal • word wall • TWLH chart • 1 enlarged copy of 'Many monkeys' (Resource sheet 10) • 4 A4 pieces of paper (see 'Preparation') For each team • science journal • 1 copy of 'Many monkeys' (Resource sheet 10) • 1 copy of 'Choosing monkeys' (Resource sheet 11)	


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