

Rivers to Reefs

Teacher Toolkit Stage 2



OUTCOMES CONTRIBUTED TO:

GE2-1

GE2-2



Welcome to the Sydney Zoo Teacher Toolkit

Our vision is to secure a sustainable future for wildlife through making connections between your students and our animals.

‘Bringing Nature into a classroom can kindle a fascination and passion for the diversity of life on earth and can motivate a sense of responsibility to safeguard it’.

Sir David Attenborough

What is in this toolkit:

- ✔ Syllabus-linked pre-visit activities
- ✔ Resources for guided and self-guided visits to the Zoo to ensure your students get the most out of their visit
- ✔ Post-visit, syllabus-linked class project
- ✔ Links to provide further information

Resources required to best use this toolkit:

- ✔ Computer and screen or smartboard
- ✔ Internet access
- ✔ Access to playground/outdoors area where possible

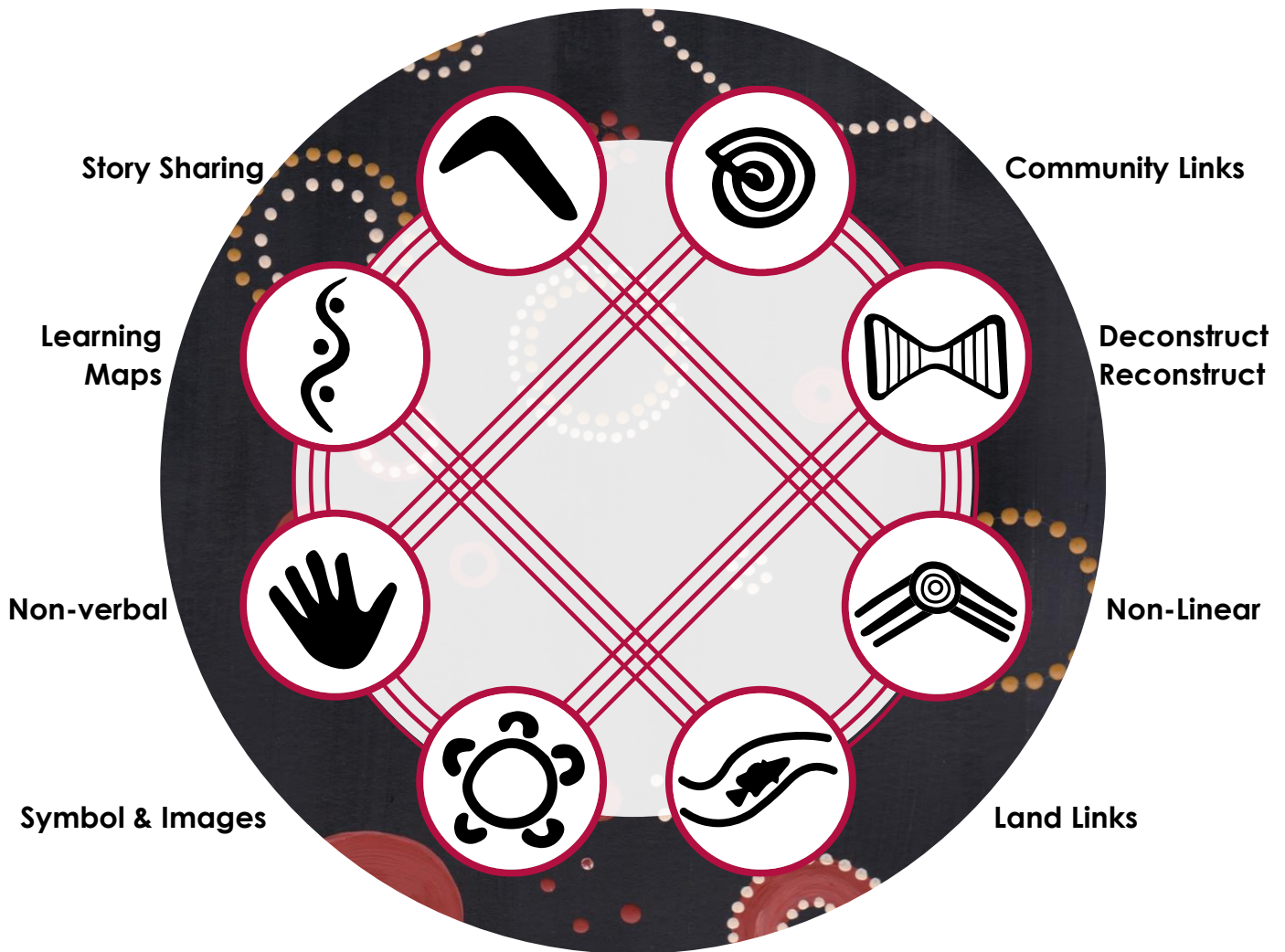
Sydney Zoo acknowledges the Darug nation, their people, past, present and their future generations.

Outcomes and content

Stage	Outcomes	Content
Stage 2	<p>Geography A student:</p> <p>Skills: Acquiring geographical information Processing geographical information Communicating geographical information</p> <p>Tools: Maps Spatial technologies Visual representations</p> <p>GE2-4 acquires and communicates geographical information using geographical tools for inquiry</p>	<p>Key inquiry question How does the environment support the lives of people and other living things? How can people use places and environments more sustainably?</p>

Aboriginal Pedagogy

8Ways of Learning







TELL A STORY. MAKE A PLAN.
THINK AND DO. DRAW IT. TAKE IT OUTSIDE.
TRY A NEW WAY. WATCH FIRST, THEN DO.
SHARE IT WITH OTHERS

From the 8Ways website <https://www.8ways.online/>

Sydney Zoo has developed this lesson package with a focus on Aboriginal Pedagogy for delivery of all content. Context for each lesson is provided in the lesson plans.

Recommended pre-visit lesson outline

Location & Duration	Outcomes & 8Ways	Learning Activity	Resources
Classroom 60+ minutes		8Ways context- explain to students that a learning map is a way to map their journey through the topic. Students can place goals and main ideas in their learning map to show the knowledge and skills they will be obtaining through activities on the way. It is a visual representation of a learning journey.	
	8Ways Learning maps	<p>Activity 1: Explain that the class will be going on an excursion to Sydney Zoo to investigate the Earth's environment, looking at rivers to reefs. Look up the Sydney Zoo Map. Brainstorm the kinds of things you will be learning at Sydney Zoo and about different animals.</p>	<p>Map https://sydneyzoo.com/zoo-map Activity sheet 'Learning map'</p>
	8Ways Land Links	<p>Activity 2: Google Maps Using Google Maps as a class or in small groups/individually.</p> <ul style="list-style-type: none"> - Students find their school's location - Students find Sydney Zoo (700 Great Western Highway, Bungarribee) - How far away is the Zoo from school? How can you travel from one to the other? <p>SixMaps</p> <ul style="list-style-type: none"> - Students find their school's location in Sydney (can use search tool on top left to search for suburb or other location) - Zoom out to see the extent of green areas and built up areas around Western Sydney <p>Explain that the dark green around Sydney are the national parks and areas of natural vegetation in the Blue Mountains. Can you find large areas of green inside Sydney? What kinds of animals may live there?</p>	<p>Link Google Maps https://www.google.com/maps Link Six Maps https://maps.six.nsw.gov.au/</p>
 	8Ways Non Verbal 8Ways Symbols	<p>Activity 3: Mapping Sydney Zoo – keep Six Maps open for this activity. Print out Activity sheets 'Mapping Sydney Zoo' (single sided) Enquiry: What is a map?</p> <ul style="list-style-type: none"> - Can be a photo, drawing/sketch, diagram showing a specific area - Needs to have specific interpretation (so a simple photograph is not enough) - Can be big (global map) or small (school map) <p>What do maps have to have?</p> <ul style="list-style-type: none"> - BOLTS Border, Orientation (north pointer), Legend, Title, Scale <p>Students to add BOLTS to the Sydney Zoo map. Use Six Maps and as a class decide on the scale. Can use the measuring tool. Use Six Maps to determine which direction is North – the orientation of Six Maps is North. Students can bring this map to Sydney Zoo on their visit to extend on their learning – using it to navigate and explain direction and distance from exhibits.</p>	<p>Activity sheet 'Mapping Sydney Zoo' Link Six Maps https://maps.six.nsw.gov.au/</p>

Mapping Sydney Zoo

Every good map has **BOLTS** – **B**order, **O**rientation, **L**egend, **T**itle and **S**cale.

Use the **BOLTS** below to make your map of Sydney Zoo.

Border

A **border** is an important part of a map. Draw a border around the map.



Having **orientation** is important to anyone reading the map so they know which direction one location is from another. Discover which direction North is at Sydney Zoo by using SixMaps then cut and paste this North pointer onto your map pointing in the right direction.

Legend

A **legend** shows what different colours or symbols mean. Cut this out and glue it to your map on one side. Underneath it add 3 items – Paths (use one colour) these can be drawn on in the white spaces between animals. Water – on the far left of the map is a large dam. A symbol for your favourite animal.

Title

A **title** gives the map meaning. It makes sure that people know what the map is showing. Add your own title to the top of the map.



Using a **scale** means you can measure how far two places are from each other on the map and know the distance in the real world. In this case each block is 1 cm long. Use Sixmaps to find out the real-life measurements of Sydney Zoo. Glue this **scale** onto your map.



This is supposed to be a map of Sydney Zoo but it is missing a few important features. You will need to help us and add these features to this map.



Map of Sydney Zoo

Example of completed task



Legend:

 Pathways

 Water

 Favourite animal





56m

112m

This is supposed to be a map of Sydney Zoo but it is missing a few important features. You will need to help us and add these features to this map.

Optional pre-visit

Classification lesson outline

Location & Duration	Outcomes & 8Ways	Learning Activity	Resources
60+ minutes		8Ways context: connecting students with a place. Students will spend time outside and describe the environment around them.	
	8Ways Land Links	Activity: Part 1 Take students outside to a part of the playground (if available) to sit and observe. If you do not have access, can use images of different places instead.	Activity sheet 'Environments'
	8Ways Non verbal	<p>Students draw on previous knowledge and describe or draw the types of vegetation they see</p> <ul style="list-style-type: none"> - E.g. grass, trees, shrubs/bushes, sand, mulch, <p>Discuss as a class what the different vegetation types are and help name them.</p> <p>As a class - come up with a name/label – is the area they describe more like a desert, a forest, a rainforest etc.</p> <p>Part 2 Observing wildlife and people using the place.</p> <ul style="list-style-type: none"> - Why is the vegetation important to them/us? Food, shelter, shade, provides habitat for prey items, provides oxygen for us to breathe, cleans our air, place to play. <p>Discussions to have:</p> <p>Has this place always looked like this? What might it have been like before the school was built? 100, 200, 300 years ago?</p> <p>How do we positively impact this place?</p> <ul style="list-style-type: none"> - e.g. watering plants, planting new trees, cleaning rubbish <p>How do we potentially negatively impact this place?</p> <ul style="list-style-type: none"> - e.g. leave rubbish to wash into the local creeks, pollution from cars etc. cut down habitat for wildlife 	

Environments

How many different types of vegetation (plants) can you see? Draw or describe them below. What name would you call what you see e.g. a forest, waterway, desert



Can you see any animals using this environment?

Why is this place important for them and us?

Visiting Sydney Zoo

Take your students on a self-guided adventure or book a workshop at Sydney Zoo! Download and print the Stage 2 Activity Booklet 'Classification of living things' to support student learning while visiting Sydney Zoo.

Pre-visit checklist:

- ✔ Pre-visit activities
- ✔ Behaviour expectations of students while visiting Sydney Zoo
 - Students must always be accompanied by a teacher
 - Follow instructions of your teacher and zoo staff
 - Take only photographs and memories, leave only footprints and smiles
 - If you get lost, find a staff member in uniform and tell them you need help
 - Have a lot of fun and ask lots of questions!
- ✔ Ask students to prepare low waste/waste free lunches if possible. We love seeing the students' being low waste/waste free – please brag about this to us
- ✔ Wet-weather preparation if the forecast is not favourable (some of our animals love wet days so don't worry about them hiding away)

Upon arrival:

- ✔ Send one staff member to check-in at Group Bookings desk - assemble classes with other staff members
- ✔ Enjoy your visit with us and please ask any staff for assistance if required
- ✔ Students must always be accompanied by a teacher

We recommend allocating small groups to adult supervisors.
Download our 'survival guide for teachers'

What is a low or no waste lunch?

- Sourcing foods that have minimal or no packaging and using reusable containers to carry food.
- Bringing your own reusable drink bottle and refill it.
- Carrying your own reusable cutlery set.



Examples

- ✔ Sandwiches - without clingwrap, they can stay fresh in a suitable reusable container or beeswax reusable wrap.



- ✔ **Fruit** - apples, bananas and mandarins are easy to eat and/or peel at school or the Zoo, the core and skin can go in the organic bins.
- ✔ **Nuts, dried fruit, biscuits, popcorn etc.** in a small reusable container, buy them in bulk to reduce packaging and put servings into small containers for snacks.



Word bank

Word	Definition
Aboriginal and/or Torres Strait Islander Peoples	<p>Aboriginal Peoples are the first peoples of Australia and are represented by over 250 language groups, each associated with a particular Country or territory. Torres Strait Islander Peoples are represented by five major island groups and are associated with island territories to the north of Australia's Cape York which were annexed by Queensland in 1879.</p> <p>An Aboriginal and/or Torres Strait Islander person is someone who:</p> <ul style="list-style-type: none"> • is of Aboriginal and/or Torres Strait Islander descent • identifies as an Aboriginal person and/or Torres Strait Islander person, and • is accepted as such by the Aboriginal and/or Torres Strait Islander community(ies) in which they live.
adaptation	The process of change by which a species becomes better suited to its environment.
built environment	The manufactured artefacts and surroundings that provide the setting for human activity.
characteristics	<p>A set of distinguishing aspects (including attributes and behaviours) of a living thing, object or material. The characteristics of living things are often used to classify them and might include how they move or reproduce.</p> <p>When discussing materials the characteristics are the qualities used by humans to determine their use and the way people work with them. They might include colour, hardness and opacity.</p>
classification	A category into which something is organised.
climate change	A long-term change in regional or global climate patterns eg annual precipitation, frequency of weather events.
climate graph	A graph showing average monthly temperature (by a line) and precipitation (by columns) for a location.
climatic zones	Refers to areas of the Earth that have similar temperatures. The major zones are hot, temperate and polar and are generally demarcated by lines of latitude. Within each zone there are different climates because of the effects of the distribution of continents and oceans and the circulation patterns of the atmosphere and oceans.
conclusions	An opinion or judgement based on evidence.
Country/Place	<p>Country is a space mapped out by physical or intangible boundaries that individuals or groups of Aboriginal Peoples occupy and regard as their own. It is a space with varying degrees of spirituality.</p> <p>Place is a space mapped out by physical or intangible boundaries that individuals or groups of Torres Strait Islander Peoples occupy and regard as their own. It is a space with varying degrees of spirituality.</p>
cultural groups	People belonging to or identifying with a nationality, ethnic group, religion or social group with a distinct culture.
culture	The customs, habits, beliefs, social organisation and ways of life that characterise different groups and communities.
designed solution	A product, service or environment that has been created for a specific purpose or intention as a result of design thinking, and design and production processes.
diversity	Differences that exist within a group, for example, age, sex, gender, gender expression, sexuality, ethnicity, ability/disability, body shape and composition, culture, religion, learning differences, socioeconomic background, values and experiences.

Word bank

Word	Definition
environment	The living and non-living elements of the Earth's surface and atmosphere. Where unqualified, it includes human changes to the Earth's surface eg croplands, planted forests, buildings and roads.
features	The tangible elements of a place or environment.
field sketches	Annotated line drawings created to record features of an environment during fieldwork activities.
habitat	The natural home or environment of an animal, plant, or other organism.
investigate	Carry out a systematic or formal inquiry to discover and examine information.
investigation	A scientific investigation is a systematic inquiry applying the processes of planning a course of action, safely manipulating tools and equipment in collecting and interpreting data, drawing evidence-based conclusions and communicating findings.
landscape	A landscape is an area, created by a combination of geological, geomorphological, biological and cultural layers that have evolved over time eg riverine, coastal or urban landscapes.
natural environment	An environment in which humans do not make significant interventions, for example ocean environments or national parks.
natural resources	Resources provided by nature. Resources can be classified as renewable, non-renewable and continuous. Also known as environmental resources.
natural vegetation	The vegetation that has evolved in an area over time.
perception	People's assessment of places and environments.
seasonal calendar	The classification of the weeks or months of the year into seasons eg spring, summer, autumn and winter, or wet and dry, or the classifications of Aboriginal cultures.
sketch map	A labelled drawing outlining the main geographical features of a place.
small-scale map	A map showing a large area of the Earth's surface with little detail eg world map where one centimetre on the map scale represents a large distance on the land.
sustainable	Supporting the needs of the present without compromising the ability of future generations to support their needs.
weather	The condition of the atmosphere at a point in time eg temperature, humidity.



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