Flora & Fauna Friendships: Identifying and Supporting Interactions Between Plants & Animals from an Indigenous Perspective

A curriculum based resource for Teachers from Early Stage 1 to Stage 3 covering Science, Geography and PDHPE

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Murrumbidgee and Southern NSW Local Health Districts acknowledge the Traditional Custodians of the land, and all First Nations Peoples. We pay respect to Elders past, present and future.

We recognise and respect their cultural heritage, beliefs and continuing connection with the land and rivers. We also recognise the resilience, strength and pride of First Nations communities.

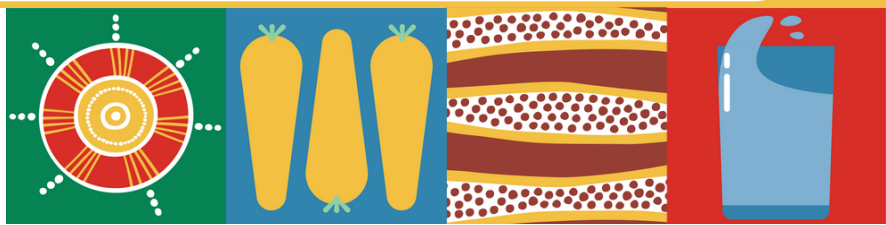
This learning package has been prepared by:

- Mark Saddler, Wiradjuri Man
- Dan Bakker, Teacher and Permaculturalist

In collaboration with:

- Murrumbidgee Local Health District Health Promotion Team
- Southern NSW Local Health District Population Health Team

Information in this resource is correct as of March 2022.



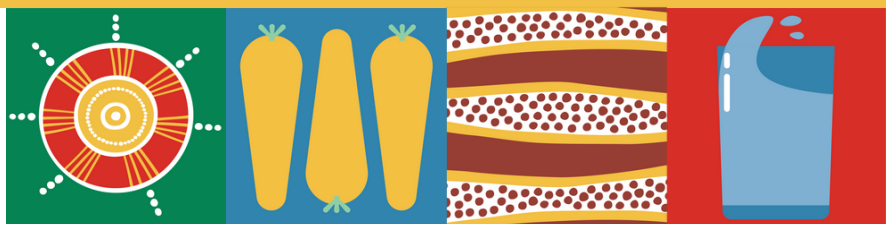
Overview:
Through merging investigative activities with Indigenous perspectives and language, students learn that their interactions with the natural world can lead to more resilient ecologies, healthier bodies and benefit the community as a whole.

Learning Intention:
Aboriginal cultures view humans as being intrinsically linked to all living and non-living objects and yet uniquely capable of 'caring for Country' in ways no other organism can.
From an Indigenous point-of-view, relationships/ interactions between living and non-living things in the natural environment influence our personal and collective health in a variety of ways.
By incorporating Indigenous language and points-of-view into our investigation of the natural world we can influence our human choices and actions on the planet.
By consciously interacting with our environment we can learn how to support healthy ecologies while in-turn promoting healthy bodies.

Teacher Preparation:
• Consult with the grounds-keeper prior to identifying all native plant species on site as well as to explore any areas available for the potential planting of additional Indigenous species.
• Pre-identify any/ all cultural advisors who might assist with clarifying the cultural application of species investigated ie. local National Parks and Wildlife Service, Local Aboriginal Land Council, Aboriginal Education Consultative Group, websites, local tourist visitor centre.
• Identify any Landcare or Native Nurseries with whom to consult which Indigenous species would grow best in your region.

Resources:
• Hyperlink to video
• Printable Bingo Sheets (Appendix 1)
• Mud map (Appendix 2)
• Indigenous Plant Matrix (Appendix 4)
• Secure a small budget or donation request for plants acquisition

Vocabulary:
Local language/vocabulary words from the traditional owners of the the school's locality ie.Wiradjuri appear in video



Cross-curriculum priorities / Aboriginal and Torres Strait Islander histories and cultures

Country/Place

Aboriginal and Torres Strait Islander communities maintain a special connection to, and responsibility for, Country/ Place throughout all of Australia. Aboriginal and Torres Strait Islander Peoples have unique belief systems and are spiritually connected to the land, sea, sky and waterways.

Culture

Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of being, knowing, thinking and doing. Aboriginal and Torres Strait Islander Peoples have lived in Australia for tens of thousands of years and experiences can be viewed through historical, social and political lenses.

People

The broader Aboriginal and Torres Strait Islander societies encompass a diversity of nations across Australia.

Outcomes

Early Stage 1 outcomes

Science:

STe-1WS-S: observes, questions and collects data to communicate ideas.

STe-3LW-ST: explores the characteristics, needs and uses of living things.

Geography:

GEe-1 identifies places and develops an understanding of the importance of places to people.

PDHPE:

PDe-7: identifies actions that promote health, safety, wellbeing and physically active spaces.

PDe-8: explores how regular physical activity keeps individuals healthy.

Outcomes Stage 1

Science:

ST1-1WS-S: observes, questions and collects data to communicate and compare ideas.

ST1-5LW-T: identifies how plants and animals are used for food and fibre products.

Geography:

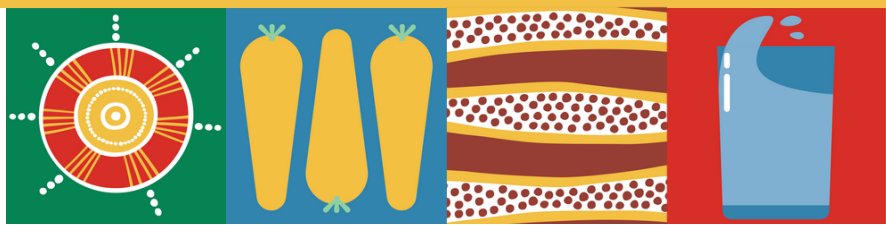
GE1-1: describes features of places and the connections people have with places.

GE1-2: identifies ways in which people interact with and care for places.

PDHPE:

PD1-7: explores actions that help make home and school healthy, safe and physically active spaces.

PD1-8: participates in a range of opportunities that promote physical activity.



Outcomes continued

Outcomes Stage 2

Science:

ST2-1WS-S: questions, plans and conducts scientific investigations, collects and summarises data and communicates using scientific representations.

ST2-5LW-T: describes how agricultural processes are used to grow plants and raise animals for food, clothing and shelter.

Geography:

GE2-2: describes the ways people, places and environments interact.

GE2-3: examines differing perceptions about the management of places and environments.

PDHPE:

PD2-7: describes strategies to make home and school healthy, safe and physically active spaces.

PD2-8: investigates and participates in physical activities to promote the benefits of physical activity on health and wellbeing.

Outcomes Stage 3

Science:

ST3-1WS-S: plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions.

ST3-5LW-T: explains how food and fibre are produced sustainably in managed environments for health and nutrition.

Geography:

GE3-2: explains interactions and connections between people, places and environments.

GE3-3: compares and contrasts influences on the management of places and environments.

PDHPE:

PD3-7: proposes and implements actions and protective strategies that promote health, safety, wellbeing and physically active spaces.

PD3-8: creates and participates in physical activities to promote healthy and active lifestyles.

Embedded STEM Steps

Step 1 – Empathise

Step 2 – Identify & Define

Step 3 – Ideate/ Imagine

Step 4 – Prototype/ Plan/Create

Step 5 – Test/ Improve

Step 6 – Share

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Lesson Plans

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Early Stage 1 & Stage 1

Step 1: Understanding Indigenous Perspectives of the Natural World

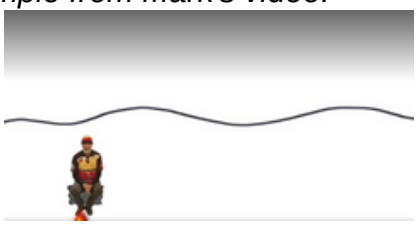
Indicators: GEe-1, GE1-1, GE1-2

Class discussion explores how different cultures and backgrounds offer diverse perspectives on the nature of the natural world and our relationship to it.

Students watch Mark Saddler's visual text whilst noting Indigenous words and symbols as they appear through the video on the 'bingo sheets' provided in Appendix 1 (either collectively or individually).

Video available at https://youtu.be/Cf-NE7yXTH0

Example from Mark's video:



Step 2: Documenting the Indigenous Landscape

Indicators: STe-1WS-S, ST1-1WS-S

After viewing the video, students discuss what living and non-living objects might exist in their local area/ school/ community.

Possible discussion about man-made additions to their landscape, how has this helped or hindered natural ecosystems/ individual species/ humans.

Students also discuss how different organisms have different dietary needs (i.e. an ant can't survive on the diet of a bird and vice versa) and that plants and animals require diverse nutrients for maximum health.

Using a mud-map students then walk to identify and categorise living and non-living objects along a route chosen by the Teacher (Appendix 2).

1. With assistance of the teacher, identify and differentiate at least THREE Indigenous plant species.
2. Choose ONE Indigenous species to research back in class.
3. Teacher draws the biological features of the plant chosen.
4. Research the local Indigenous name of the plant and (where possible) outline THREE cultural applications and/or ecological functions of the species. Use Fact File (Appendix 3).

Early Stage 1 & Stage 1

Step 3: Culturally Enhancing a Local Landscape

Indicators: STe-1WS-S, ST1-1WS-S

Using the knowledge gained from their investigation, research and cultural consultation students creatively contribute to a local landscape via the planting of an Indigenous species.

Students might also utilise a range of non-living objects to augment the landscape, i.e:

1. rocks
2. a decaying log
3. a natural mulch cover
4. insect habitat (i.e. simple bamboo bee homes)
5. water harvesting and storage (the creation of small swales, pools)

Students might also consider titling their landscaping a 'Friendship' or 'Welcome' Garden using local language (i.e. the Far South Coast (Bega Valley) it would be a 'Walawaani Garden' or a 'Mudji Garden' or a 'Giiong Garden').

1. Research, discuss and choose ONE endemic species to plant at school.
2. Discuss the cultural and ecological characteristics of the plant .
3. Document the local Indigenous name of the plant.
4. Walk within the school grounds to explore a suitable site for planting.
5. Discuss the requirements of the plant.

Step 4: Planting a Cultural Garden

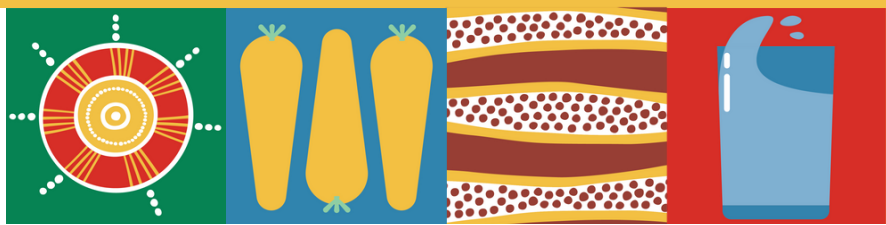
Indicators: GEe-1, GE1-1, GE1-2

1. Determine the area in the school to plant their native species and draft/ enhance a very basic map identifying a location for the planting.
2. Identify the living and non-living objects in the map.
3. Plant their native species within the space chosen.
4. Design and create simple signage.

Step 5: Revisit and Monitor the Garden

Indicators: PDe-7, PD1-7

1. Monitor, measure and document the growth of the plant/ cultural garden each week.
2. Discuss what it means to 'care for Country' into the future and the associated health benefits from this.
3. Reflect how this unit has helped students connect to Country and enhanced their health and wellbeing, including mental wellbeing.



Stage 2

Step 1: Understanding Indigenous Perspectives of the Natural World

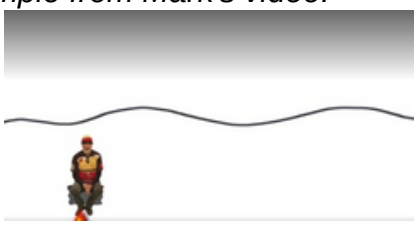
Indicators: GE2-2, GE2-3

Class discussion explores how different cultures and backgrounds offer diverse perspectives on the nature of the natural world and our relationship to it.

Students watch Mark Saddler's visual text whilst noting Indigenous words and symbols as they appear through the video on the 'bingo sheets' provided in Appendix 1 (either collectively or individually).

Video available at https://youtu.be/Cf-NE7yXTH0

Example from Mark's video:



Step 2: Documenting the Indigenous Landscape

Indicators: ST2-1WS-S

After viewing the video, students discuss what living and non-living objects might exist in their local area/ school/ community.

Possible discussion about man-made additions to their landscape, how has this helped or hindered natural ecosystems/ individual species/ humans.

Students also discuss how different organisms have different dietary needs (i.e. an ant can't survive on the diet of a bird and vice versa) and that plants and animals require diverse nutrients for maximum health.

Using a mud-map students then walk to identify & categorise living and non-living objects along a route chosen by the Teacher (Appendix 2).

1. Identify at least FIVE Indigenous plants.
2. Of the native plants discovered students include:
   - ONE root or low-lying species
   - ONE emerging shrub, tussock or flower species
   - ONE emergent tree or vine species
3. Research and outline the local name and cultural application and/ or ecological function of the plants chosen. Use Fact File (Appendix 3).

Stage 2

Step 3: Culturally Enhancing a Local Landscape

Indicators: ST2-1WS-S

Using the knowledge gained from their investigation, research and cultural consultation students creatively contribute to a local landscape via the planting of an Indigenous species.

Students might also utilise a range of non-living objects to augment the landscape, i.e.:

1. rocks
2. a decaying log
3. a natural mulch cover
4. insect habitat (i.e. simple bamboo bee homes)
5. water harvesting and storage (the creation of small swales, pools)

Students might also consider titling their landscaping a 'Friendship' or 'Welcome' Garden using local language. (i.e. the Far South Coast (Bega Valley) it would be a 'Walawaani Garden' or a 'Mudji Garden' or a 'Giiong Garden').

1. Research and identify THREE diverse plant species with a view to enhance a pre-established local garden site. Note: students might wish to identify a garden site that lacks diversity and select species specifically to complement its deficits. A plant's colour, shape and height might be considered in the selection process.
2. Research and document the local name, cultural application and ecological function of the species chosen.
3. Consider utilising a local nursery, horticulturalist or cultural consultant to determine suitable species.

Step 4: Planting a Cultural Garden

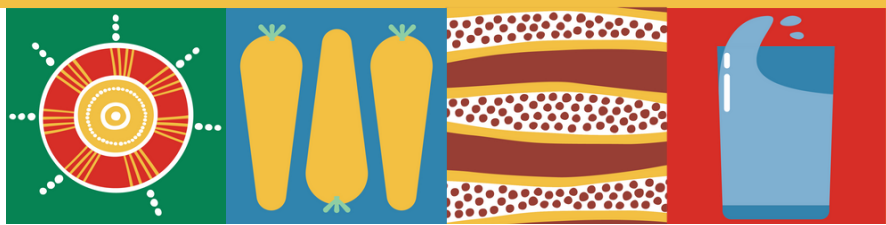
Indicators: GE2-2, GE2-3

1. Determine the area in the school to plant their native species and draft/ enhance a very basic map identifying a location for the planting
2. Identify the living and non-living objects in the map
3. Plant their native species within the space chosen
4. Design and create simple signage

Step 5: Revisit and Monitor the Garden

Indicators: PD2-7

1. Monitor, measure and document the growth of the plant/ cultural garden each week
2. Discuss what it means to 'care for Country' into the future and the associated health benefits from this
3. Reflect how this unit has helped students connect to Country, and enhanced their health and wellbeing, including mental well-being



Stage 3

Step 1: Understanding Indigenous Perspectives of the Natural World

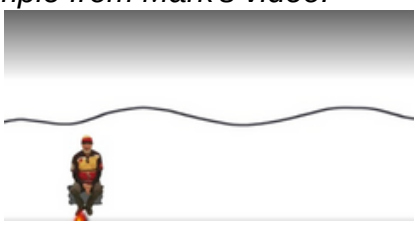
Indicators: GE3-2, GE3-3

Class discussion explores how different cultures and backgrounds offer diverse perspectives on the nature of the natural world and our relationship to it.

Students watch Mark Saddler's visual text whilst noting Indigenous words and symbols as they appear through the video on the 'bingo sheets' provided in Appendix 1 (either collectively or individually).

Video available at https://youtu.be/Cf-NE7yXTH0

Example from Mark's video:



Step 2: Documenting the Indigenous Landscape

Indicators: ST3-1WS-S

After viewing the video, students discuss what living and non-living objects might exist in their local area/ school/ community.

Possible discussion about man-made additions to their landscape, how has this helped or hindered natural ecosystems/ individual species/ humans.

Students also discuss how different organisms have different dietary needs (i.e. an ant can't survive on the diet of a bird and vice versa) and that plants and animals require diverse nutrients for maximum health.

Using a mud-map students then walk to identify & categorise living and non-living objects along a route chosen by the Teacher (Appendix 2).

1. Using the Indigenous Plant Matrix provided (Appendix 4), research and outline the names, cultural applications and ecological functions of ALL of the native plant species identified.

Step 3: Culturally Enhancing a Local Landscape

Indicators: ST3-1WS-S

Using the knowledge gained from their investigation, research and cultural consultation, students creatively contribute to a local landscape via the planting of an Indigenous species.

Students might also utilise a range of non-living objects to augment the landscape, i.e.:

1. rocks
2. a decaying log
3. a natural mulch cover
4. insect habitat (i.e. simple bamboo bee homes)
5. water harvesting and storage (the creation of small swales, pools)

Students might also consider titling their landscaping a 'Friendship' or 'Welcome' Garden using local language (i.e. the Far South Coast (Bega Valley) it would be a 'Walawaani Garden' or a 'Mudji Garden' or a 'Giiong Garden').

With reference to the Indigenous Plant Matrix provided, identify a wide selection of diverse plant species with a view to either:

a) enhance a pre-established local garden site

or

b) create a new cultural garden

To maximise ecological diversity & cultural representation, the species selection process might also consider:

1. Colour
2. Shape
3. Canopy height
4. The ecological function of each plant
5. The cultural application of each plant
6. Including a bird/ bee/ butterfly pollinator species

Step 4: Planting a Cultural Garden

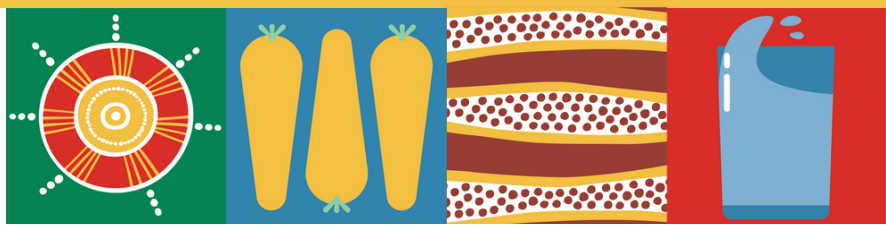
Indicators: GE3-2, GE3-3

1. *Determine the area in the school to plant their native species and draft/ enhance a very basic map identifying a location for the planting.*
2. *Identify the living and non-living objects in the map.*
3. *Plant their native species within the space chosen.*
4. *Design and create simple signage.*

Step 5: Revisit and Monitor the Garden

Indicators: PD3-7

1. *Monitor, measure and document the growth of the plant/ cultural garden each week.*
2. *Discuss what it means to 'care for Country' into the future and the associated health benefits from this.*
3. *Reflect how this unit has helped students connect to country and enhanced their health and wellbeing, including mental wellbeing.*



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Appendices

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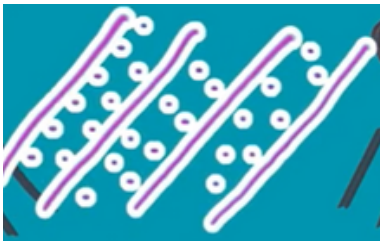
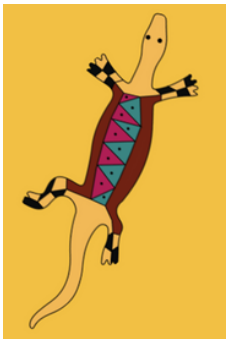
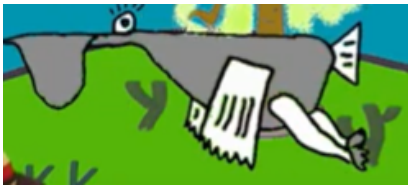
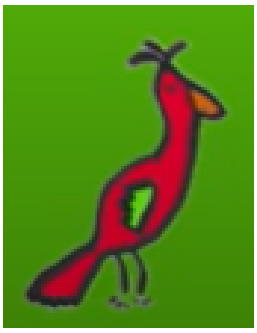
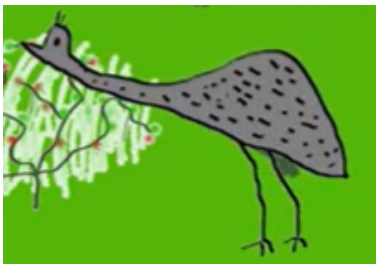
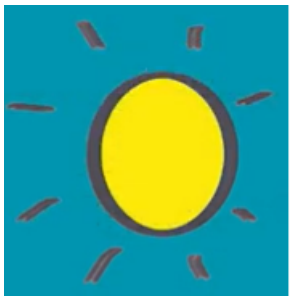
Appendix 1

Bush tucker bingo

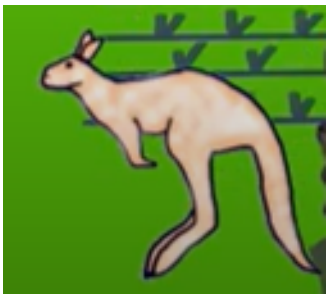
		
		
		
		

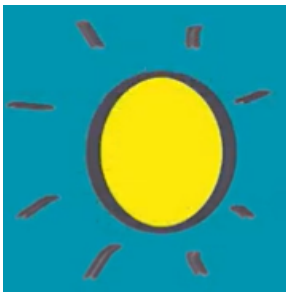
Appendix 1

Bush tucker bingo

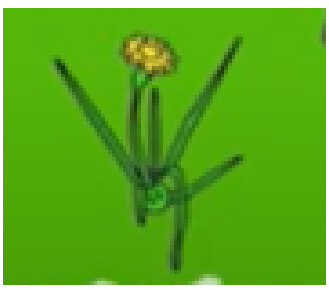










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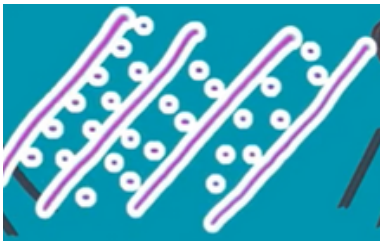
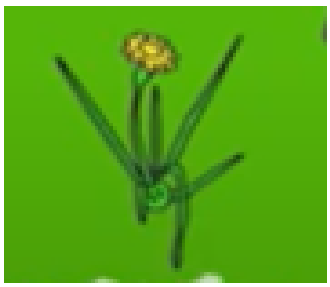
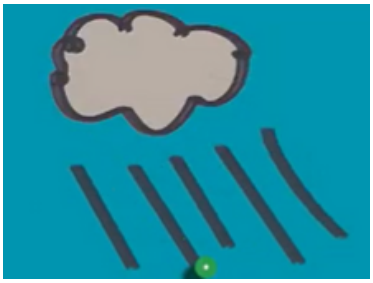
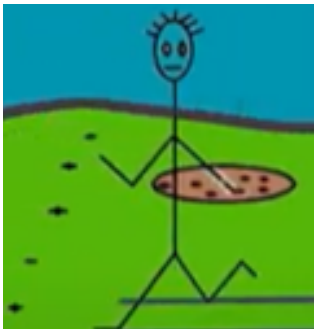
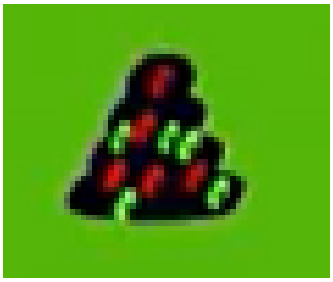
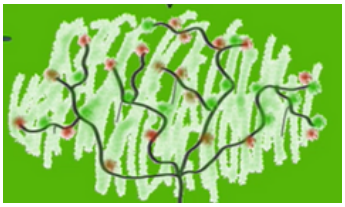
Appendix 1

Bush tucker bingo

Appendix 2: Mud Map

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Appendix 3:
Fact File: Indigenous Plants

Name of plant:

Indigenous name of plant:

Three cultural applications OR ecological functions

1

2

3

Write down one fun fact about the plant you chose:

Appendix 4: Indigenous Plant Matrix

Common Name of Plant:

Scientific Name of Plant:

Cultural Name of Plant:

	Attribute	Checklist
Position in the Landscape	a root species	
	a ground cover	
	a grass/tussock	
	a shrub or small bush	
	an emergent (tree)	
	a vine	
Cultural Application of the Plant Identified	human food	
	food for another species	
	medicinal	
	fuel	
	hunting	
	construction	
	textiles (i.e., glue)	
	carrying & storage	
	shelter & comfort for humans	
	dyes	
	used in communication	
Ecological Function of the Plant	capacity to store carbon in the soil[1]	
	positive improver of the soil[2]	
	bird/bee/butterfly pollinator species	
	habitat for other species	
	food for another species	

[1] Capacity to store carbon in the soil: https://www.abc.net.au/gardening/factsheets/caring-for-climate/12976910

[2] Positive improver of the soil: https://www.youtube.com/watch?v=dy7NYSnXyjM

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