Jane Goodall's roots&shoots

What on Earth?

The plants you have never heard of!

Teacher Resources

Jane Goodall Institute Australia

Jane Goodall's roots & Shoots






All images from What on Earth?The Plants you have never heard of! See the book for image credits.

Contents

The Jane Goodall Institute Australia and Petaurus Education Group acknowledge with deep respect the First Nations of this land we now call Australia.

We recognise their continuing connection to Country and acknowledge that they never ceded sovereignty. We thank them for caring for our living landscapes since time immemorial.

We acknowledge and respect the continuation of cultural, spiritual and educational practices. We pay our respects to Elders past and present and emerging and extend that respect to all First Nations people reading this book.

About the Roots & Shoots program

Congratulations for being a Roots & Shoots school!

Roots & Shoots is a global community action program founded by Dr. Jane Goodall in 1991. The program aims to inspire, empower and encourage young people all over the world.

It shows them how to follow their passions, take actions together and become the change our world needs. That way, we can all ensure a better future for people, animals and the environment.

About the resource box

The Roots & Shoots Resource Box is designed for use by teachers and students in primary schools, or by homeschoolers. As well as the four stunning books within, the Box offers several exciting learning opportunities to further foster optimism for our future:

WOODiWILD (woodiwild.org) enables schools to join a national tree planting program, while also raising funds for your own school needs.

One Earth Film Festival (onearthfilmfestival.org) enables young story tellers to create throught provoking, transformative films to understand climate change, sustainability and the power of human involvement.

AIME and IMAGI-NATION UNIVERSITY offer mentoring to young changemakers focusing on creating a fairer world in school and beyond. Head to aimementoring.com/secret-school-site to learn more.

This teacher resource

This resource aims to more deeply engage teachers and students with the amazing and inspiring content of the 2021 Roots & Shoots Resource Box. Moving beyond simply reading and viewing the beautiful pages of these books, through these learning sequences it is hoped all can be inspired to take action towards a better future.

The What on Earth! Amazing plants you have never heard of book is authored by plant experts and is an important teacher professional learning resource. It supports teachers towards achieving **Australian Professional Standards for Teachers Standard 2: Know the content and how to teach it.**

Teachers can choose to undertake part, or all, of these learning sequences, however it is recommended to follow the complete sequence in order to achieve the best outcomes.

Completing the activities in these Learning Sequences will enable students:

- to achieve outcomes in upper primary Geography and Science courses – see Page 6 for full curriculum links
- to engage deeply with the content of the What on Earth? Amazing plants you have never heard of book
- to think creatively and engage with alternative perspectives about their environment

These learning sequences apply the 5 E's instructional model and the 8 Ways of Learning – see pages 2 & 3 for a more complete summary of these pedagogical approaches.

All registered Roots & Shoots schools can access the full digital versions of all books in the Resource Box via the Roots & Shoots website.

Pedagogical approaches applied in these resources

These learning sequences embed inquiry-based learning into a modified 5Es instructional model (Bybee, 1997), with the five phases: Engage, Explore, Explain, Elaborate and Evaluate.

5E's	Main ideas / skills
Engage	Identifying and defining Connect past with present Create interest
Explore	Researching and planning Encourage creative thinking Give common set of experiences Challenge own ideas
Explain	Apply new vocabulary
Elaborate	Producing and implementing Apply to new experiences
Evaluate	Testing and evaluating. Have you changed your thinking?

8 ways of learning Aboriginal pedagogy approach

We acknowledge the Traditional Owners of western New South Wales where this pedagogy was developed.

For the best understanding of this pedagogy, and its value in applying it here and in your teaching, head to **www.8ways.online**. The following summary is from that website.

This is a pedagogy framework that allows teachers to include Aboriginal perspectives by using Aboriginal learning techniques.

This Aboriginal pedagogy framework is expressed as eight interconnected pedagogies involving narrative-driven learning, visualised learning processes, hands-on/reflective techniques, use of symbols/metaphors, land-based learning, indirect/ synergistic logic, modelled/scaffolded genre mastery, and connectedness to community.

Throughout this resource you will see the symbols in the picture below. These indicate where these practises are incorporated into the learning sequences.

The meaning of each symbol is summarised simply below – for a more complete understanding head to the 8 ways website.

Story Sharing: Approaching learning through narrative.

Learning Maps: Explicitly mapping/visualising processes.

Non-verbal: Applying intra-personal and kinaesthetic skills to thinking and learning.

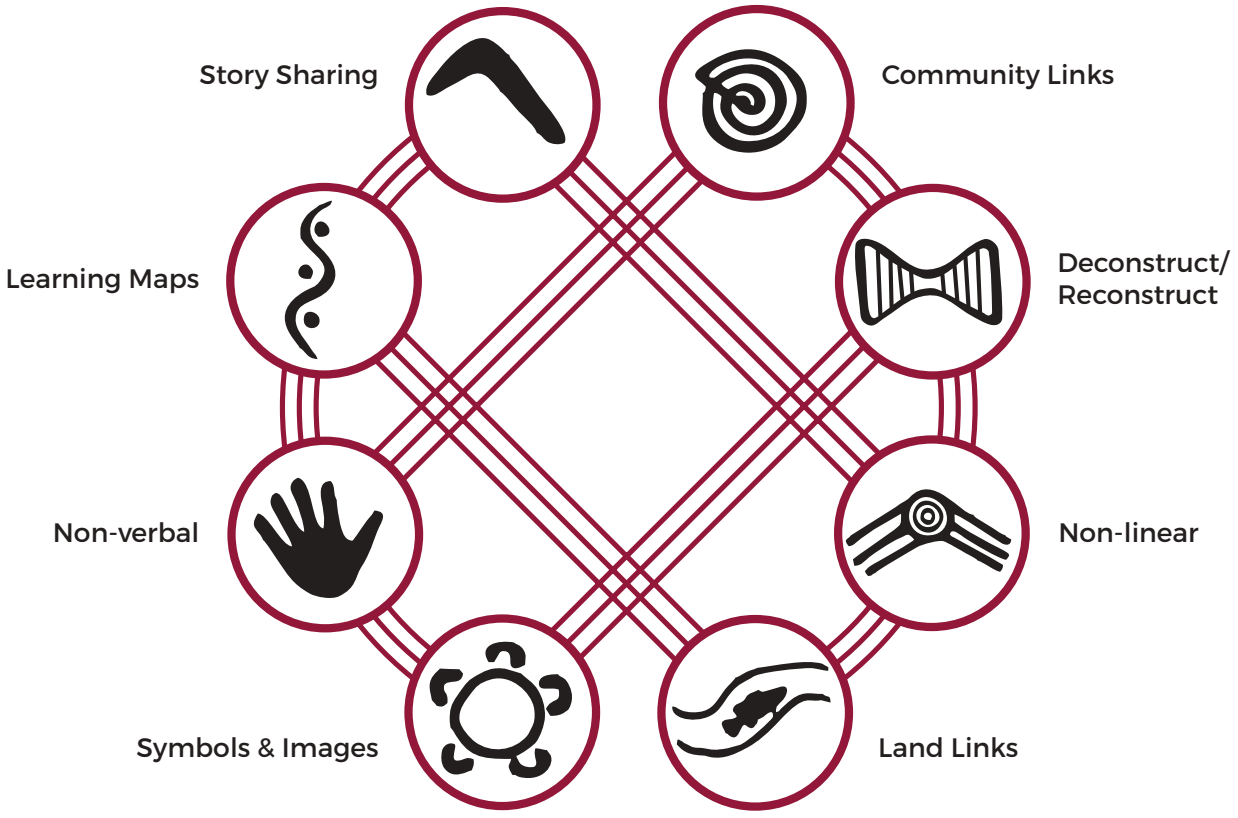
Symbols and Images: Using images and metaphors to understand concepts and content.

Land Links: Place-based learning, linking content to local land and place.

Non-linear: Producing innovations and understanding by thinking laterally or combining systems.

Deconstruct/Reconstruct: Modelling and scaffolding, working from wholes to parts (watch then do).

Community Links: Centring local viewpoints, applying learning for community benefit.



About Petaurus Education Group

This Teacher Resource is written by Petaurus Education Group.

Petaurus Education Group Inc. is a not-for-profit organisation named after the threatened Squirrel Glider (*Petaurus norfolcensis*) that lives around Albury, NSW, in Wiradjuri Country. Petaurus was set up as an independent entity in 2015 to source funding for local environmental projects. Petaurus develops and delivers a range of natural resource management, sustainable agriculture and cultural education activities.

With hubs in Albury, Hay and Gol Gol in NSW, Petaurus has serviced schools across the entire Murray-Darling basin, spanning 1,059,000 km^2 or 14% of Australia's land area. Petaurus has also recently increased in remote learning capacity, directly engaging with thousands of students every year. Petaurus identifies, develops and delivers a range of learning and curriculum experiences, resources and initiatives for schools and community groups. Our goal is to help connect communities and individuals with natural resource management topics such as land, water, biodiversity, productive farming and sustainability, as well as support cultural awareness initiatives. Many Petaurus staff and board members have worked at local, state and federal government levels.

Our vision: A balanced, productive and resilient regional landscape with engaged communities.

Our mission: To encourage, support and connect our regional communities with the natural and cultural environment through the development and delivery of quality engagement, education and communication that promotes positive change.

Learn more about our work: www.petaurus.org.au

Petaurus
EDUCATION GROUP

Introduction to What on Earth? The Plants you have never heard of!

What is your favourite plant? Perhaps one of the colourful flowers in your garden or local park? Or a cactus growing as a pot plant on a windowsill at home or at school? Or an intricate fern in a local woodland?

Have you ever thought how many types of plants there are ... or how many of those plants you know?

Covering the following key aspects of plant biology, the images and words in this book represent countless opportunities for improving teacher background knowledge, and of course exciting students with amazing plants!:

- Classification, including domains and kingdoms of organisms, and types of plants, including seed plants
- Photosynthesis and respiration
- Parts of a plant, flower parts and fern reproduction
- Main types of climate and main land biomes
- One deep diving chapter on each of these:
  - > Fascinating Flowers
  - > Fruits and Seeds
  - > Life-giving Leaves
  - > Amazing Plants
  - > World Record Holders
  - > World's Smelliest Plants
  - > Carnivorous Plants
  - > Fascinating Fungi

This book is all about plant species you might never have heard of. You may end up choosing a new favourite!

This beautiful book brings the plant world to life with vibrant photographs and lively language sure to capture the imaginations of students and teachers alike.

Useful Links and Professional Learning

Roots & Shoots

If you've an idea to benefit animals, people and environment – no matter how big or small – we want to help you. Across Australia, our Roots & Shoots local leaders are ready to guide our members in planning, creating and realising your activity. Whether you're an individual, youth group or school we provide the skills, tools and mentoring to make your activity a success.

Australian Curriculum

These Learning Sequences are designed to be used by teachers and students across Australia and are therefore linked to Australian Curriculum outcomes. For latest developments and additional resources to support the teaching of Australian Curriculum, head to that website.

Australian Association of Environmental Educators (AAEE)

Australia's peak professional body for environmental educators.

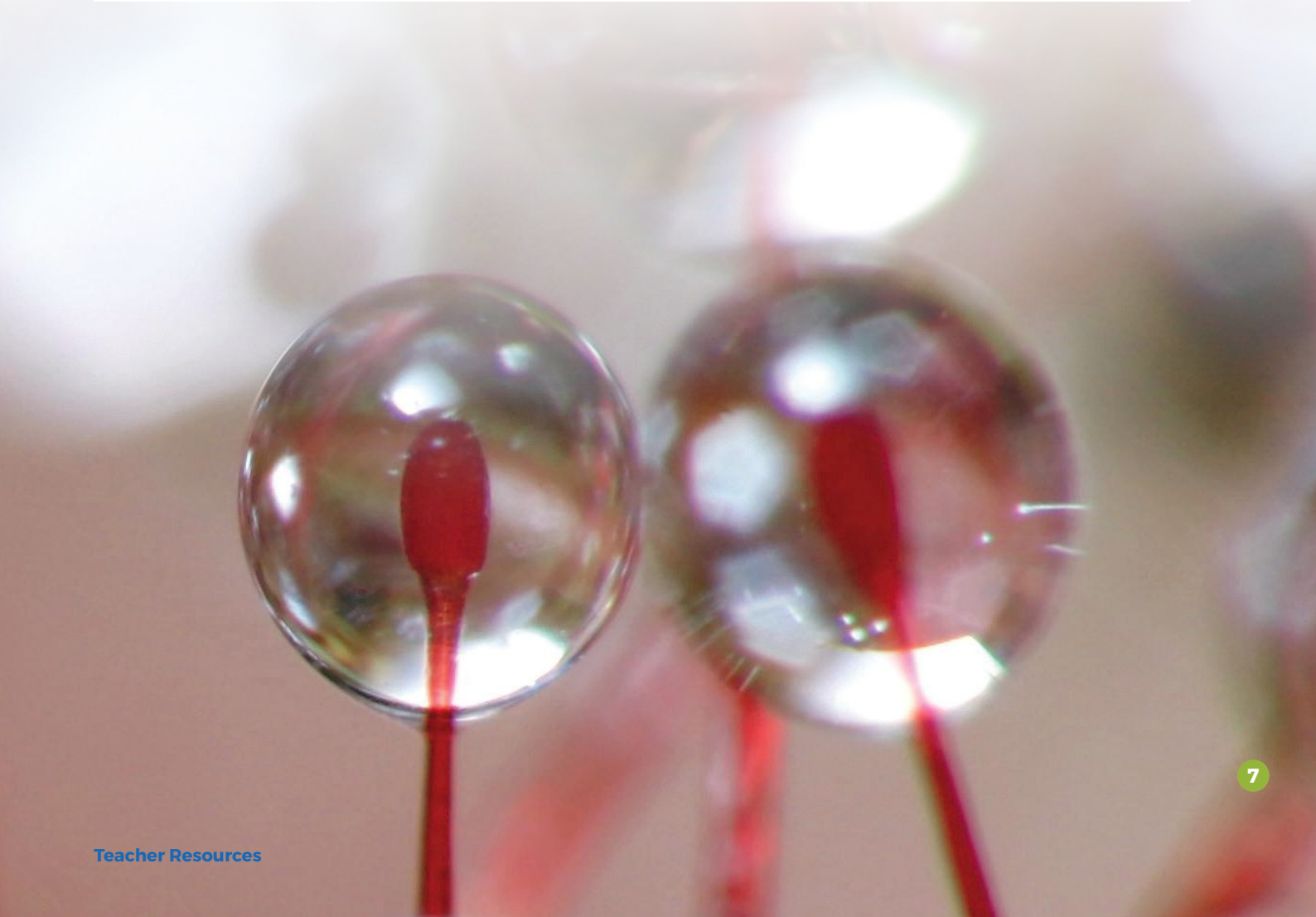
- Advocate for Environmental Education and promote best practice.
- Provide a network for cross-sector environmental educators.
- Promote the effective use of education to help people to live more sustainably.
- Support members via professional development.
- Build strong local networks that facilitate collaboration and skill sharing.

Gardening Australia

High quality and easily accessible advice to do with plants and gardening in Australia. Use the search function on the website to access a huge range of video fact sheets, and a library of plant identification profiles.

Summary of Learning Sequences

Learning sequence	Learning intentions	Main ACARA curriculum links	Main learning experiences	Page
Useful Plants Estimated 10 lessons	Investigate food technologies and techniques used to produce healthy food – follow a recipe Design, plan and produce a product, system or environment to support the growth of plant and or animal that could be used in a healthy meal	Year 4 Geography: the importance of environments, including natural vegetation, to animals and people (ACHASSK088) Year 2 Science: Earth's resources are used in a variety of ways (ACSSU032) Year 4 Science: Living things depend on each other and the environment to survive (ACSSU073)	Field trip to a food garden Class display of local plant resources Working with recipes Plan a food garden	8
Amazingly Appropriate Adaptations Estimated 7 lessons	Examine how the environment affects the growth, survival and adaptation of living things Describe adaptations as existing structures or behaviours that enable living things to survive in their environment	Year 5 Science: Living things have structural features and adaptations that help them to survive in their environment (ACSSU043) Year 3 Science: Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044) Year 1 Science: Living things have a variety of external features (ACSSU017)	Plant Treasure Hunt Research using book Matching game Design an Amazingly Appropriate Plant Plant Showcase	15



Learning sequence:
Useful Plants

Overarching inquiry questions:

How do humans use plants and animals?

How do we create food products from animals and plants?

Learning intentions:

Investigate useful plants to understand different ways in which humans use plants

Describe the growing conditions a plant needs to survive

Follow a recipe incorporating a local useful plant

Design and plan an environment to support the growth of a useful plant

Success criteria:

All must identify a variety of useful plants, identify some ways they are useful, and outline the basic environmental conditions required for them to grow

Most should explain why a variety of local plants are useful using recipes, clearly describe the environmental conditions required for them to grow

Some could plan an environment that will successfully support the production of a locally useful plant based on its usefulness in a recipe

Main Outcomes

Science: **Year 2:** Earth's resources are used in a variety of ways (ACSSU032)

Year 4: Living things depend on each other and the environment to survive (ACSSU073)

Geography: **Year 4:** the importance of environments, including natural vegetation, to animals and people (ACHASSK088)

KEY VOCABULARY

Parts of a plant

Growing conditions

seasons

Soil

SPECIAL NOTES

Icons like this:

- indicate opportunity for differentiation, including up and down learning stages
- indicate how this relates to the 8 ways of learning pedagogy
- indicate a page number in the What On Earth! The Plants You have Never Heard Of! book

TEACHER NOTES

Please note this Learning Sequence requires access to TWO books in the Resource Box – Living Landscapes and What on Earth:

Enliven your understanding of plant parts by reviewing the following sections from What on Earth: the most amazing Plants you've never heard of!: Plant Parts (Pg. 16)

Fruits & Seeds (Pg. 42)

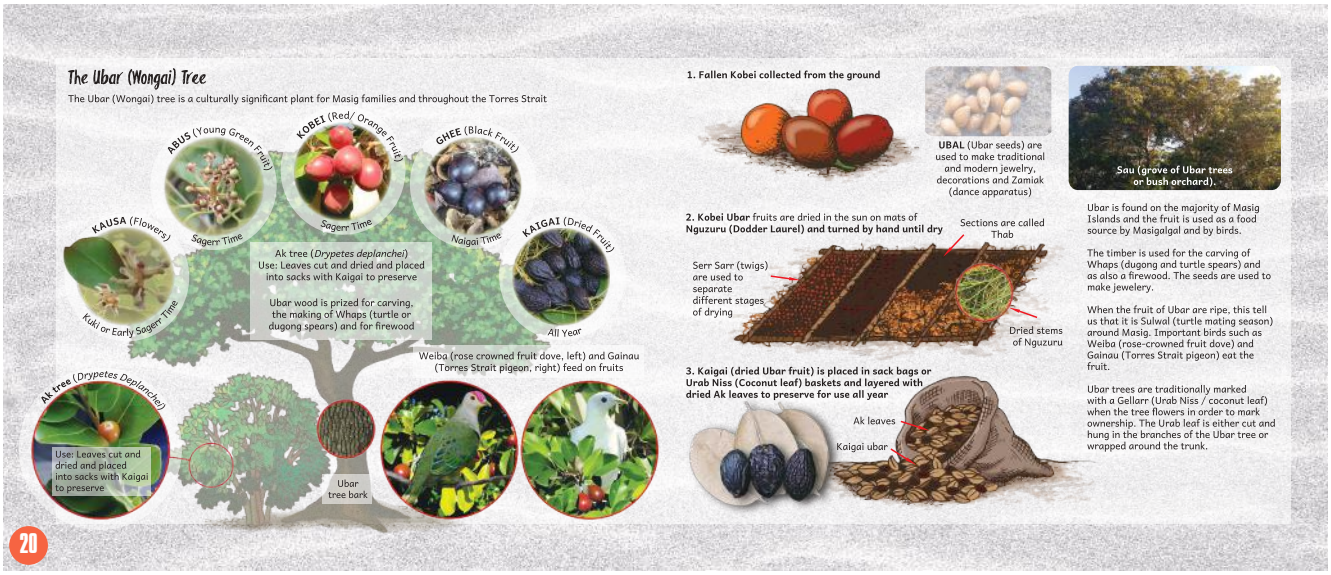
Use the Living Landscapes Vol 1 book to review the various cultural uses of plants, particularly the Ubar Tree illustration from Masig Country (Pg. 20-21) and seasonal calendars (Pg. 16-19, 40-45, 88-89)

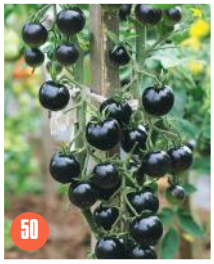
Spend time researching if there is any cultural knowledge of plants recorded in your local area – these could be called "ethnobotanical guides", "bush tucker" or "bush foods" guides

Connect with your local food plant specialists – try a community garden, Aboriginal Land Council or nursery. Showing them this learning sequence can help maximise their time and useful input. Reach out early and discuss possible payment for their time.

Learning sequence: Useful Plants
Lesson 1

Content	Teaching learning and assessment	Resources
ENGAGE **General capabilities:** Literacy	**What is the most useful plant we have?** Brainstorm all the species of plants we use in our lives – prompt with food, fibre, medicine, recreation, shelter Introduce the Ubar Tree illustration from Masig Country (Pg. 20-21 of Living Landscapes Vol 1) and interpret to count/tally how many ways the tree is used by people and animals. Explore the Book: What on Earth: the Most Amazing Plants You've Never Heard Of! Check out some of these amazing food plants from What on Earth? The Plants you have never heard of! – can you find them in the book?	**Teacher resources:** Following sections from What on Earth: the most amazing plants you've never heard of! Plant Parts Pg. 16 Fruits & Seeds Pg. 42 Vanilla Pg. 89





Learning sequence: Useful Plants
Lesson 2, 3 & 4

Content	Teaching learning and assessment	Resources
EXPLORE **General capabilities:** Literacy Personal & social capability Critical & creative thinking Intercultural understanding	**What are some important plants in my local environment?** **Field trip to identify local species of useful plants:** Visit a food garden in your area and ask a guide to accompany you – this could be a community garden volunteer, an enthusiastic local gardener, a school kitchen garden or agriculture teacher. Show them this learning sequence and invite their involvement. Make sure to do an Acknowledgment of Country before you start learning at this special place • What plants are used by you? • What part of the plant is used? – take photographs or draw the whole plant • What plants are used by other living things? - E.g., insects, pollinators, possums, bats, soil bacteria? • What threatens the plant? – E.g., pests, disease, pollution, extreme weather • How are the plants cared for? – E.g., record tools used, supports such as trellis, pot size or type • Which plants are useful now, and which are not useable now? Your area may have a cultural ethnobotany book (a guide to Indigenous plants and their uses by local First Nations). You could contact a First Nations person who may be able to show you plants with cultural uses including medicine, food, fibre, timber. Show them this learning resource and ask if they can help out! **What do these useful plants need to survive?** **Growing conditions:** Find a care guide for some of the plants you have seen – this could be on a plant label, in a book, on the internet or from your expert. • What amount of sun and warmth does it need to grow? • How much water does it need? • What type of soil does it like to grow in? • Does it need a pot, a pond, a trellis, or any other special equipment? • What other plants does it need around it? • Consider one animal interaction that this plant has – does the animal assist or attack the plant?	**Teacher resources:** Your local expert food gardener Ethnobotany book / local bush foods book The Masigalgal and South West Land and Sea Corporation chapters of the Living Landscapes Vol 1 book **Lesson resources:** Local food garden and guide Plant care labels Seasonal guide Digital copies of the Living Landscapes book

Learning sequence: Useful Plants
Lesson 2, 3 & 4 (continued)

Content		Teaching learning and assessment	Resources
		What grows when?: Find a seasonal growing chart for your area – an example is "New South Wales South-West Slopes Planting Guide". What food plants are growing now? What could you plan to plant in a garden for the future? What time of year has the greatest number of food plants you enjoy eating? Explore one of the amazing First Nations recorded seasonal calendars in the Living Landscapes Vol 1 book – check out the Seasons At My Place learning sequence for structured activities. Can you identify from which seasons plants provide the most food as per the Ubar Tree example? Can you find food shown in each season?	

Learning sequence: Useful Plants
Lesson 5 & 6

Content		Teaching learning and assessment	Resources
EXPLAIN **General capabilities:** Literacy ICT Critical & creative thinking		**What are some important plants in my local environment?** **Build a class display of local plant resources** Students choose at least one plant that they use in their life that they may see growing (good examples are potatoes, banana, tomatoes, spinach/silverbeet), and make an informative poster about that plant. Use a template if required - try the Ubar Tree illustration page 20-21 of Living Landscapes, or the Parts of a Plant page 16 of What on Earth. Most plant field guides are a useful guide as well. Information Poster: • Draw a labelled diagram • indicate what part of the plant is used • Show what time in the seasonal cycle the plant is ready to use • Show what conditions it needs to grow (warmth, sunlight, water) • Does the plant need any animal interaction to support its survival? • Explain, using drawings, photos and words, how the plant can be processed cleaned, cut, cooked)	**Lesson resources:** Large paper, at least A3 and other equipment to make a poster

Learning sequence: Useful Plants
Lesson 7 & 8

Content	Teaching learning and assessment	Resources
ELABORATE **General capabilities:** Literacy Numeracy Critical & creative thinking ICT	**Can I contribute to my classmates plant profiles?** **Review the class display – students show students:** · Students come up with up to 3 questions or additional information they have about other plants · Are there any additional ways the plant could be used? · Tally or graph the plants useful in different seasons – is there one season that is more useful for your class than others? Allow time to discuss and conduct more research to answer questions if required. Consider inviting a guest from interested people from your local community, especially your local food garden expert, and have students guide them around your class display. **How can I use a local plant or animal in a healthy meal?** **Local resource recipes** Broaden your thinking to include meat and other food resources from your local environment – this can be local cropping, grazing, community gardens, bushfoods including fish and dairy products. In groups, research, write and/or follow recipe that includes at least one natural resources from your local environment. Can you use more than one? Can you use ONLY local natural resources? – this will depend on where you live. Hint: Usually you can adapt a curry, stew and pizza recipe. Consider inviting a local First Nations person who can show you how to prepare and eat local ingredients. You could also research to find a First Nations chef using a common "bush food" such as quandong, Kakadu plum, lemon myrtle, kangaroo meat, fish.	**Teacher resources:** A directory of local food producers would be useful **Lesson resources:** Access to simple recipes that can be modified to suit Access to a kitchen and ingredients (optional)

Learning sequence: Useful Plants
Lesson 9 & 10

Content		Teaching learning and assessment
EVALUATE **General capabilities:** Critical & creative thinking		**How can we plan a garden of useful plants that supports our needs?** **A garden of useful plants: start to plan a food garden to grow** Developing your plan: • Students contribute ideas for a "wish list" of useful plants to grow • Make a list of all the species that you agree could be grown • Draw a map or drawing showing what would be growing. Make sure you have enough to make a recipe or two! • Do you need to make a different plan for different seasons? • What are some obstacles to your garden being successful? • Who might you need to involve in the garden and why? • List or draw the tools you will need to look after these food plants Once you have a good plan, consider talking to your school leaders about the barriers and benefits to making it happen! Consider registering your garden project with Roots & Shoots! **Reflection:** "I used to think the most useful plant I knew was _____, but now I think it's _____ because _____"

Learning sequence:

Amazingly Appropriate Adaptations

Overarching inquiry questions:

- What are the physical features of plants?
- How do the structural and behavioural features of plants support survival?

Learning intentions:

Examines how the environment affects the growth, survival and adaptation of living things

Describe adaptations as existing structures or behaviours that enable living things to survive in their environment

Success criteria:

All must identify physical features of a variety of plants

Most should describe features of a plants structure and behaviours that enable it to survive

Some could give examples of specific behavioural and structural adaptations of plants and explain how they enable the plant to survive in a specific environment

Main Outcomes

Science:

Year 5: Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)

Year 3: Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)

Year 1: Living things have a variety of external features (ACSSU017)

KEY VOCABULARY

Parts of a plant

Behavioural adaptations

Structural adaptations

Features

Predators

Pollinators / pollination

Arid

Seed dispersal

Water conserving

SPECIAL NOTES

Icons like this:

- indicate opportunity for differentiation, including up and down learning stages
- indicate how this relates to the 8 ways of learning pedagogy
- indicate a page number in the What On Earth! The Plants You have Never Heard Of! book

TEACHER NOTES

A prior review of the What on Earth? The Plants you Have Never Heard Of! ook will prepare teachers for the many amazing directions this lesson could go! Ensure you review the Types of Plants (Pg. 12) and Plant Parts (Pg. 16) sections. Other relevant sections are notedin the equence below.

Consider connecting with a local plant expert for their expertise, stories and your own professional development – a community garden or plant nursery can sometimes help. Showing them this learning sequence can help maximise their time and useful input. Reach out early, and discuss possible payment for their time.

Pre-plan a route around your school or local area (ensure excursion permission notes are covered) to maximise the diversity of plants you can see.

Learning sequence: Amazingly Appropriate Adaptations
Lesson 1

Content	Teaching learning and assessment	Resources
ENGAGE **General capabilities:** Personal & social capability	**So, what exactly are plants?** **Braindump:** Revise the following and capture in a mind map. Teachers can choose to revisit this after your Plant Treasure Hunt. Capture information such as: • Conditions necessary for plant growth • Parts of a plant (Pg. 16-17) • Energy creation (photosynthesis) (Pg. 14-15) • What are plants? - Include green algae, flowering plants, ferns, mosses, conifers, cycads (Pg. 12-13) • What are not plant? - E.g. Fungi, animals and protists are not plants (Pg. 10-11) • Survival and adaptability – Plants are able to live almost anywhere on the planet (Pg. 18-25) **Plant treasure hunt** Head outside into the playground or other nature space to observe features of plants by using the plant treasure hunt sheet provided or another (there are many available). Depending on where you are you can collect samples and stick to your plant treasure hunt sheet or take photographs. Note that plants are protected in some places. This is a great opportunity to invite local plant and gardening experts, or local First Nations representatives into your class to share their knowledge whilst you hunt. Provide them with the plant treasure hunt sheet so they can see what you are up to.	**Teacher notes:** As noted Connect with a local plant expert **Lesson resources:** A walking route around the school or local area Plant Treasure Hunt sheet Cameras (if using)

Learning sequence: Amazingly Appropriate Adaptations
Lesson 2

Content		Teaching learning and assessment	Resources
EXPLORE **General capabilities:** Literacy Critical & creative thinking		**What are some amazing adaptations and freaky features that we can see in plants?** **Find a freaky feature** Students choose one of the features from the plant treasure hunt sheet. Find that feature in the book (use page numbers noted to help if you like) to learn more. **Amazing adaptations pictures and word wall:** Have students, in pairs or individually, read and explore the pages below which describe the features of plants that enable them to survive in their environment: • Sensitive Plants (Pg. 66-67) • Exploding Seeds (Pg. 70) • Squirting Cucumbers (Pg. 71, read page 70 as well) • Greenhouse Plants (Pg. 72-73) • Cacti (Pg. 80-81) • Colours, Scents and Bait (Pg. 27) • Shapes and Sizes (Pg. 27) • Ant Defenders (Pg. 85) Students should complete a drawing that helps them remember the adaptation described. Encourage students to use arrows, symbols and colours in their drawings. As students explore, have them build a word wall of new vocabulary and allow time to define and discuss.	**Lesson resources:** Digital versions of the book Large wall Paper for the Word Wall

Learning sequence: Amazingly Appropriate Adaptations
Lesson 3 & 4

Content	Teaching learning and assessment	Resources
EXPLAIN **General capabilities:** Literacy Critical & creative thinking	**Why do plants have these amazing adaptations?** **Structural or behavioural?** Using curriculum appropriate resources, define these two types of adaptations in plants i.e. structural and behavioural. Consider the following key words that describe the environment, growth and survival of plants, plus words from the word wall: • Predators • Pollinators / pollination • Arid • Seed dispersal (note: for an extension of this head to the Australia's Amazing Islands book to explore how plants arrive on islands and weeds threaten native vegetation) • Water conserving **Match 'em Up sentences!** Match a structure or behaviour from column 1 with an outcome from column 2, (students should recognise these from the pages they used in the Explore section above) then transform into complete sentences. Note – table below shows matches so don't forget to mix it up!	**Teacher notes:** Life giving leaves Pg. 58-59 Fruit and seeds Pg. 42-43 Fascinating flowers Pg. 26-27 **Lesson resources:** A version of the Match 'em Up table of sentence starters Digital copies of the Plants book

STRUCTURE OR BEHAVIOUR THAT THE PLANT HAS:	WAYS TO SUPPORT SURVIVAL:
Sweet nectar or edible pollen	attracts pollinators which spread pollen between plants to allow reproduction
Striking fancy flower **shape**	attracts pollinators which spread pollen between plants to allow reproduction
Leaves **move** when touched	to deter predators
Seed pods catch rain	to disperse seed away from the parent plant into new nearby habitat
Dense **hairs** on and between the leaves	catch air to keep plant warm
Leaves **trap** water and nutrients	so that it doesn't need roots to grow
Spines	to defend from predators
Hardly any leaves or **small leaves**	to avoid water loss
Stems can **expand**	to store water

Specific species report back / Think pair share:

Choose one of the plants listed in the Explore section above, or any other plant from the book. Have students name a plant and explain in sentences and pictures (written or verbal) what the plant does to adapt to their environment and support survival.

Learning sequence: Amazingly Appropriate Adaptations
Lesson 5 & 6

Content	Teaching learning and assessment	Resources
ELABORATE **General capabilities:** Literacy Critical & creative thinking Personal & social capability	**Can you design a plant with amazingly appropriate adaptations?** **Design an Amazingly Appropriate Plant:** Create a poster with at least one labelled diagram. Refer to the pictures you created in EXPLORE as a start. If you need to, choose a model plant from those you explored in the book. E.g. acacias, orchids, bromeliads or cacti. Describe the environmental conditions that the plant lives in using one sentence – include climate (rain and heat), competition from other plants and predators. E.g. My plant lives in a desert where it is very dry and has spines that protect it from predators. Photos can be added to show this environment Describe the physical features of the plant in sentences and/or diagrams – refer to your plant treasure hunt and parts of a plant. Describe the structural or behavioural adaptation that your plant has. Use metaphors if this helps. Use the sentences you wrote in the Explain section as a start. E.g. "My plant has a thick, pleated stem like a pineapple to store water" or "my plant has spikes like an echidna to deter predators". Give your plant a suitable but creative name! Older students can use a scientific name and a common name. **Plant showcase draft:** Display the posters. Consider inviting your local plant experts or interested community members. Allow time for students to ask questions and make suggestions to each other's designs using sticky notes or a structured discussion.	**Lesson resources:** Large paper for posters Colour pencils etc Labelled diagrams from the EXPLORE section Sticky notes if using

Learning sequence: Amazingly Appropriate Adaptations
Lesson 7

Content		Teaching learning and assessment	Resources
EVALUATE **General capabilities:** Critical & creative thinking		**Showcase FINAL:** Have students reflect on their design and modify it based on feedback from other students. **Can we recognise any amazing adaptations in our local area?** **Create a tricky treasure hunt:** Have students brainstorm all the adaptations they now know that plants have. Can you observe any of these in the plants in your local area? Consider redoing the plant treasure hunt, or even creating your own trickier plant treasure hunt! Please consider sharing your Amazingly Appropriate Plant designs, or your tricky plant treasure hunts with us! Email the Roots & Shoots team rootsandshoots@janegoodall.org.au.	**Lesson resources:** All finalised plant design posters A walking route around the school or local area as per Treasure Hunt Blank Treasure Hunt sheets

Learning sequence: Amazingly Appropriate Adaptations
Plant treasure hunt

Can you find a plant, or part of a plant, that matches each box in this treasure hunt?

Depending on where you are, take small samples and sticky tape them to this page, make small drawings, or take photos noting that plants are protected in some places.

shaped like a star (page 134)	**smells good**	**fruits** (page 42)
tall tree (page 111)	**smells bad** (page 128)	**lots of veins** (page 60)
is camouflaged (pages 104 to 105)	**fluffy**	**growing on another plant** (pages 96 to 97)
has purple (page 51)	**a plant that catches water** (page 75)	**spiky / spiny** (pages 82 to 83)
has red (page 61)	**seeds** (pages 42 to 43 & 114)	**lots of little flowers together** (page 120)
has large leaves (page 110)	**fungi** (pages 10 to 11)	**a large single flower** (page 118)

Jane Goodall's
roots & shoots

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Australia

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