

Contents

Before you begin	iv
Topic 1 Supporting children to understand and respect the natural environment	1
1A Understanding the natural environment	3
1B Providing natural and recycled materials	10
1C Creating spaces that develop life skills	15
Summary	20
Learning checkpoint 1: Supporting children to understand and respect the natural environment	21
Topic 2 Identifying areas for change	25
2A Identifying sustainable practice	27
2B Developing strategies for improvement	34
Summary	39
Learning checkpoint 2: Identifying areas for change	40
Topic 3 Supporting others to implement sustainable practices	43
3A Involving children and communities	45
Summary	48
Learning checkpoint 3: Supporting others to implement sustainable practices	49



Topic 1

In this topic you will learn about:

1A Understanding the natural environment

1B Providing natural and recycled materials

1C Creating spaces that develop life skills

Supporting children to understand and respect the natural environment

The natural environment is full of wonders and joys that children can explore with you. The beauty of natural colours and textures can be coupled with a range of reused and recycled items to provide a variety of activities and open-ended experiences.

1A Understanding the natural environment

Most children have a fascination with the environment and the things they find living in it. They interact with natural materials and can be encouraged to appreciate their value and beauty.

However, caring for and appreciating the natural environment is far more beneficial to children than how it looks and what treasures it can hold. The future of our land, our health, plants and animals all reside in the knowledge children hold and the actions they take to care for the environment and maintain its health. This is known as sustainability.



Ecosystems

At the foundation of environmental education is an understanding of ecosystems. This is about the interdependence of people, plants, animals and the land. Each of these parts needs the others if they are to remain healthy.

Here are a few things to know about ecosystems:

- ▶ Ecosystems are made up of soil, atmosphere, heat, light, water and living things.
- ▶ Everything in the natural world is connected – if one part suffers, this impacts other parts.
- ▶ The healthier an ecosystem, the less easily it can be damaged.

The role of each part

Each part of an ecosystem has a crucial role to play. For example:

- ▶ Soil provides nutrients for plants and holds water for plants and animals.
- ▶ The atmosphere provides air for plants and animals, including people, to breathe; without the atmosphere we would have no life at all.
- ▶ The sun provides warmth and heats up water, causing it to evaporate, which sends it into the atmosphere to make rain.
- ▶ Water makes up a large part of the cells of living things, including people, and is necessary for keeping animals and plants alive.
- ▶ Biodiversity refers to the variety of living things. Living things contribute to the ecosystem as they provide food for other living things; for example, plants are food for animals and people.

Discussing the environment with children

There are a number of ways to involve children in discussion about the environment and many topics that you can investigate. The best opportunities to discuss the environment come when children ask about or speak about the environment.

You may be:

- ▶ in a group
- ▶ in the natural environment
- ▶ interacting with nature, the environment and animals
- ▶ interacting with man-made or non-sustainable products and situations.

Watch this video about helping children appreciate the natural environment.



Encouraging children to learn about the environment

There are many ways to encourage children to enjoy and learn about the environment.

To provide opportunities for children to engage with the environment, you may:

- ▶ use the outdoor environment often
- ▶ include natural elements in the environment; for example, plants, trees, edible gardens, sand, rocks, mud and water
- ▶ encourage children to touch, feel, look and smell
- ▶ have picnics
- ▶ plant seeds and watch how they grow
- ▶ visit the zoo, museum or aquarium
- ▶ plan incursions with mobile farms and animal visits
- ▶ use reference books, online searches, pictures and posters, and the knowledge of parents, educators and others in the community, such as vets or zoologists
- ▶ use stories, songs, movement and poetry
- ▶ discuss different kinds of animals; for example, pets, farm animals, zoo animals, animals that fly, animals that live in the sea, animals that come from different parts of the world or animals that are extinct.

When a child expresses an interest in a topic, take the opportunity to make it a teachable moment. Some topics are simple and will only be discussed for a few moments, while others may evolve into large-scale projects.

Practice task 1

1. Explain how you might model respect, care and appreciation of the environment while working with children. Give **two** examples.

2. Research the guidelines for environmental learning. Answer these questions:
 - a. Which element of the NQS focuses on sustainability?

- b. Which element of the NQS focuses on the environment?

- c. Which practice in the EYLF/MTOP mentions that children are responsible for caring for the environment?

- d. Which outcome in the EYLF/MTOP mentions respect for the environment, and the need for daily routines and practices to embed sustainability?

- e. Which responsibility in the ECA Code of Ethics states that you should work to help children understand the environment?

3. Write down how these elements, practices, outcomes or responsibilities are represented in service policies and procedures.

4. Choose one of the discussion topics mentioned in this section. List **three** things you might discuss with a child to develop their knowledge of this topic.

Many books and websites provide ideas for setting up and using natural materials. There are many useful resources available to support early childhood educators to embed sustainable practices, including the Early Childhood Australia website (<http://aspirelr.link/early-childhood-australia>).

Types of materials

Many different types of natural and recycled materials can be used in a variety of open-ended ways, both indoors and outdoors.

Natural materials

You can source natural materials from:	
▶ the garden	▶ a garden centre
▶ treasure hunts	▶ craft stores
▶ an excursion	▶ art supplies.
▶ a child's collection	

Incorporate these materials into your plan of activities. The following table includes some examples.

Experience ideas	Materials for indoors and outdoors
Art	<ul style="list-style-type: none"> ▶ Charcoal ▶ Sticks in wet sand ▶ Wool (for weaving) ▶ Leaves (for printing) ▶ Feathers (for painting)
Sensory play	<ul style="list-style-type: none"> ▶ Sand ▶ Water ▶ Mud ▶ Pebbles
Sorting activities	<ul style="list-style-type: none"> ▶ Seed pods ▶ Leaves ▶ Pebbles ▶ Gumnuts ▶ Shells
Science	<ul style="list-style-type: none"> ▶ Feathers and leaves (for floating) ▶ Pebbles and shells (for sinking) ▶ Seeds and bulbs (for growing) ▶ Garden creatures, such as slaters, worms and caterpillars (for anatomy) ▶ Plants, seeds and plant parts ▶ Flowers, leaves and eggs (for differences)

1C Creating spaces that develop life skills

Ongoing discussion about the environment is important to the development of children's life skills. Children benefit from knowing about:

- ▶ growing and preparing food
- ▶ waste reduction and recycling.



Growing and preparing food

An edible garden is a fantastic learning experience.

Concepts that children can learn about when involved in growing a garden include:

- ▶ life cycles of plants, bugs and other animals in the garden
- ▶ where foods come from, what they look like before we see them on our plates, and how to prepare them
- ▶ how to care for plants
- ▶ what role bees play
- ▶ how the garden ecosystems work
- ▶ roles and responsibilities; for example, who is in charge of watering and who needs to weed
- ▶ counting, measuring and comparing seeds and garden beds
- ▶ sequencing; what comes first, second, third, etc.
- ▶ time; for example, how long it takes for each plant to grow fruit, or which days of the week the garden should be fertilised
- ▶ horticulture; for example, the names of plant species, companion planting, landscaping, propagation or cultivation.

Garden experiences

Gardens are pleasant to look at, smell, observe over time and care for. A garden area can be as small as a pot plant or window box. They can be built with raised garden beds or made from recycled materials.

Children love to get involved in the process of developing a garden. They can help you:

- ▶ plan the space
- ▶ collect items they need on an excursion
- ▶ help write a letter to a supplier
- ▶ place the items



There are many books, online articles and experienced gardeners that can help you get started with a garden project. Parents with knowledge and skills are one of your most valuable resources, and getting them involved serves many purposes.

Garden projects

A garden project can be started, completed and recommenced again and again. Each child is able to participate at different levels of interest and in different periods of time. A child who may not be excited by digging and sowing may love watering, weeding, harvesting or preparing. The passion that a child develops for one aspect may evolve into an interest in another.

You may encourage children to:

- ▶ create their own learning story about the garden
- ▶ draw plants and make posters to tell others about the garden
- ▶ develop a 'how to grow' guide
- ▶ create a garden safety poster.

Waste reduction and recycling

Most local governments have recycling programs in place. Your service will have a waste bin and hopefully a recycle bin. Green bins are also common and useful.

The key to waste reduction and recycling are the three Rs:

- ▶ Reduce
- ▶ Reuse
- ▶ Recycle



The following table shows how to involve children in applying the three Rs.

Strategy	What to do	What you can do with children
<p>Reduce – Choose items that have less packaging.</p>	<ul style="list-style-type: none"> ▶ As you walk through a supermarket or department store, notice how things are wrapped and packed. Most of this packaging is of no use when you open the product. ▶ By choosing products that have less packaging, you can help reduce waste. 	<ul style="list-style-type: none"> ▶ Discuss packaging. ▶ Decide which types of packaging can be reused. ▶ Identify which purchases have the least packaging or rubbish.

Practice task 3

1. How could a service implement practices that relate to recycling and reducing waste?

2. Identify one thing that could be changed to further reduce waste and encourage recycling.

3. Write down how you would explain to children the benefits of recycling or reducing waste.

Summary

- ▶ Sustainability can relate to people or the environment, and refers to the actions you take to enable long-term maintenance or endurance of any system or product.
- ▶ The foundation of environmental education is understanding ecosystems, which is about the interdependence between people, plants, animals and the land.
- ▶ It is important to talk about the environment with children, and encourage an appreciation of its value and beauty.
- ▶ By creating a balance between natural, man-made and recycled resources in the play area, you will notice a change in the feel of the environment and how the children use and respond to it.
- ▶ It is essential to model respect, care and appreciation for both natural and constructed environments.
- ▶ When presenting any materials and resources, ensure children feel safe, involved, comfortable and intrigued by the set-up.
- ▶ Important subjects that develop ongoing life skills for the child are growing and preparing food, and waste reduction and recycling.

Learning checkpoint 1

Supporting children to understand and respect the natural environment

Part A

Prepare a four-stage experience for a group of preschool children that includes the following parts:

- ▶ Sorting game
- ▶ Discussion
- ▶ Brainstorming
- ▶ Poster or book

Prepare this experience so it can be delivered in single stages or as one complete activity.

When collecting items for the sorting game, you should choose **four** items from nature or made from natural materials and **four** items created from man-made materials.

1. Choose one item from your collection to use as the basis for a discussion about recycling. List **five** questions that you could ask the children to engage them in this discussion.

2. Create a list of **five** questions that you can use to brainstorm with the children about the environment.

The questions should be created in a way that you can contribute to the session by modelling your own sustainable behaviour. For example, 'In what way do you care for the environment? I care for the environment by making sure that I put my glass jars in the recycle bin, so they can be turned into other glass objects.'



Topic 2

In this topic you will learn about:

2A Identifying sustainable practice

2B Developing strategies for improvement

Identifying areas for change

Sustainability can be included in everything you do. Services should demonstrate their commitment to sustainability by reviewing their practices and developing policies that will ensure a future for children and the earth.

Watch this video for more about identifying areas for sustainable changes.



The following table maps this topic to the National Quality Standard and both national learning frameworks.

National Quality Standard	
	Quality Area 1: Educational program and practice
	Quality Area 2: Children’s health and safety
✓	Quality Area 3: Physical environment
	Quality Area 4: Staffing arrangements
	Quality Area 5: Relationships with children
	Quality Area 6: Collaborative partnerships with families and communities
	Quality Area 7: Governance and leadership
Early Years Learning Framework	My Time, Our Place
Principles	
	Secure, respectful and reciprocal relationships
	Partnerships
	High expectations and equity
	Respect for diversity
✓	Ongoing learning and reflective practice
Practice	
	Holistic approaches
	Responsiveness to children
	Learning through play
✓	Intentional teaching
✓	Learning environments
	Cultural competence
	Continuity of learning and transitions
	Assessment for learning
Outcomes	
	Children have a strong sense of identity
✓	Children are connected to and contribute to their world
	Children have a strong sense of wellbeing
	Children are confident and involved learners
	Children are effective communicators

The following table presents some essential items to include.

Audit area	Item to consider
Water	<p>Do you:</p> <ul style="list-style-type: none"> ▶ water the garden using water left over from troughs, water play activities or running taps? ▶ have a water tank? ▶ sweep paths rather than hose them? ▶ water gardens early in the morning or late at night to minimise evaporation? ▶ provide containers of water for play rather than a running hose? ▶ teach children about the half flush on the toilet? ▶ avoid using drains to dispose of unwanted materials? ▶ use unbleached toilet paper?
Energy	<p>Do you:</p> <ul style="list-style-type: none"> ▶ use natural light as much as possible? ▶ dry clothes on the washing line? ▶ use the washing machine and dishwasher only when you have a full load? ▶ look for 5-star energy-rated appliances? ▶ have solar power installed?
Air	<p>Do you:</p> <ul style="list-style-type: none"> ▶ avoid sprays or chemicals that leave toxic fumes or smells? ▶ open windows to allow fresh air to circulate?
Waste	<p>Do you:</p> <ul style="list-style-type: none"> ▶ provide handkerchiefs rather than tissues? ▶ use cloth towels to dry rather than disposable towels? ▶ use only recycled materials for art activities like threading and collage? ▶ use food only for eating and play dough? ▶ make double-sided photocopies or communicate electronically? ▶ use material bags rather than plastic? ▶ provide bins for recycling? ▶ have a worm farm and/or a compost heap? ▶ repair broken toys and equipment?
Animals and plants	<p>Do you:</p> <ul style="list-style-type: none"> ▶ replace things borrowed from the garden after use – natural materials, bugs, leaves, etc.? ▶ plant native trees and shrubs that require less water? ▶ encourage birds and wildlife into the garden with plants? ▶ use non-toxic pest control, such as planting mint or onions to discourage ants? ▶ grow your own food? ▶ buy locally grown food?

2B Developing strategies for improvement

An environmental audit identifies where your service may improve its sustainability practices. This knowledge allows you to raise new ideas with your supervisor and discuss how to make simple changes. These may occur immediately, within the scope of the normal service practices or following a discussion that involves all staff.

Some examples of sustainable changes could include the following:

- ▶ If you noticed that the service used rice and pasta in children's art and sensory experiences, you may suggest that they alter their sustainability or art policies to eliminate this.
- ▶ If you noticed that children did not know about the half flush on the toilet, you could immediately start teaching them. You would also let other staff know why you were doing this.
- ▶ If you noticed staff were hosing the paths rather than sweeping them, you could bring this up at a meeting. You may also mention it to your supervisor and explain your concerns.

Your ability to implement a change, as well as the ease and speed at which it can occur, depends on the change you want to make. In most situations you will have to do some research.

Alternatives

If you are going to suggest a more sustainable option, you need to know what alternatives are available. The following table provides some information about alternative cleaning products. You should also do your own research to see if there are any other options appropriate to your service.

Type of cleaner	Area for use	Recipe/direction
Spray cleaner	Benches and tables	<ul style="list-style-type: none"> ▶ Mix 300 ml pure liquid soap with 50 ml spirits of orange. ▶ Top up with vinegar to make 1 litre.
Cream paste cleaner	Sinks and stubborn stains on benches and tables	<ul style="list-style-type: none"> ▶ Equal parts spirits of orange and bicarb soda. ▶ Add enough pure liquid soap to make a paste and store in a sealed glass jar. ▶ May need stirring before each use.
Disinfectant wipe	Nappy-change benches, vinyl mattresses	<ul style="list-style-type: none"> ▶ Neat vinegar. ▶ Add an essential oil fragrance such as spearmint if desired.

Implications	Example
How much will it cost to make the change, and are there any financial benefits?	No cost to make the change. \$2.50 per litre compared to \$4.30 per bottle of spray disinfectant. This is nearly half the price.
Will this require a policy change or a practice change?	For best outcomes, both policy and practice should be changed.

Positives and negatives

It is a good idea to make a list of positives and negatives before you suggest a change in policy or practice. This allows you to identify which strategy is the most suitable and whether change is appropriate. By taking this approach, you show that you are considering all of the options and are open to learning and change. It can also lead you to the ultimate best practice, which is very rewarding.

The table below provides an example of considering the positives and negatives of a suggested change.

Suggested change: Changing to non-toxic cleaning products for the nappy-change bench.			
Most sustainable alternatives: Oxygen bleach, vinegar			
Origin	Strategy	Positives	Negatives
Original strategy (non-sustainable)	Chlorine bleach	<ul style="list-style-type: none"> ▶ Easy ▶ Can be purchased in bulk ▶ Doesn't require mixing ▶ Cheap 	<ul style="list-style-type: none"> ▶ Smells ▶ Can damage clothing ▶ Harsh on skin ▶ Can become dangerous if mixed with other chemicals ▶ Corrosive to metal
New strategies	Oxygen bleach	<ul style="list-style-type: none"> ▶ Stored as a powder ▶ Non-toxic ▶ No fumes 	<ul style="list-style-type: none"> ▶ Needs to be mixed with water ▶ Expensive
	Vinegar	<ul style="list-style-type: none"> ▶ Natural ▶ Can be sprayed ▶ Cheap 	<ul style="list-style-type: none"> ▶ Needs to be mixed with other items, such as water, bicarb soda or lemon

Some ideas are outlined in the following table.

Activity	How to involve families and the community
Being involved in policy or philosophy development	<ul style="list-style-type: none"> ▶ Provide surveys to gather feedback. ▶ Ask them to contribute to a mural that represents what they want the service to look like.
Helping to solve problems	<ul style="list-style-type: none"> ▶ Ask for ideas as part of problem-solving. ▶ Contact parents and community members who have specialty knowledge or who implement sustainable procedures at home.
Researching for improvements and learning new ideas	<ul style="list-style-type: none"> ▶ Contact specialists. ▶ Develop a resource library. ▶ Organise gatherings and celebrations where you share information and support each other to become more sustainable. ▶ Organise meetings or shared professional development sessions. ▶ Provide online materials or activities. ▶ Request donated materials.
Taking ideas home	<ul style="list-style-type: none"> ▶ Ask for reflections on what you are implementing. ▶ Get involved in recognised events such as: <ul style="list-style-type: none"> – National Tree Day – Clean Up Australia Day – World Oceans Day. ▶ Create and share an environmental audit for homes or workplaces. ▶ Provide take-home resources such as books to read to children and games or puzzles that families can play together.

Providing information

If parents, families and other community members are involved, you need to be organised. Everyone likes to be informed and to understand what will be happening and why. There are a number of points to cover if you want them to support your ideas. They will want to know:

- ▶ what the strategy is
- ▶ why it is beneficial
- ▶ what preparation is required
- ▶ what resources and materials are needed
- ▶ how it will be implemented.

More importantly, they will also want to know how you plan to involve the children.

Putting all this information into a simple document will help you organise your thoughts. It will also lead to a much more positive response from both families and community members.