CHCECE049
Embed environmental responsibility in service operations

Learner Guide

Updated to include National Quality Framework changes

Learning Resources

CHCECE049

Embed environmental responsibility in service operations

Release 1

Learner Guide

Aspire Version 2.1

One World for Children Pty Ltd

Aspire Learning Resources

CHCECE049 Embed environmental responsibility in service operations, Release 1

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Aspire Learning Resources
Supporting Vocational Education and Training for 30 years
1991 to 2023

Contents

Before you begin

This Learner Guide is based on the unit of competency *CHCECE049 Embed environmental responsibility in service operations*, Release 1.

Your trainer or training organisation must give you information about this unit of competency as part of your training program. Information regarding how this Learner Guide relates to this unit of competency is detailed in our mapping guide.

How to work through this Learner Guide

This Learner Guide contains a number of features that will assist you in your learning. Your trainer will advise which parts of the Learner Guide you need to read, and which Practice Tasks and Learning Checkpoints you need to complete.

Feature of the Learner Guide	How you can use each feature
Learning content	➢ Read each topic in this Learner Guide. If you come across content that is confusing, make a note and discuss it with your trainer. Your trainer is in the best position to offer assistance. It is very important that you take on some of the responsibility for the learning you will undertake.
Examples	➢ These highlight learning points and provide realistic examples of workplace situations.
Practice Tasks	➢ Practice Tasks give you the opportunity to put your skills and knowledge into action. Your trainer will tell you which Practice Tasks to complete.
Summaries	➢ Key learning points are provided at the end of each topic.
Learning Checkpoints	➢ There are Learning Checkpoints at the end of each topic. Your trainer will tell you which activities to complete. These activities give you an opportunity to check your progress and apply the skills and knowledge you have learnt.

This table maps each topic in this Learner Guide to the National Quality Standard and national learning framework: Early Years Learning Framework (EYLF).

T = Topic

Topics	National Quality Standard (NQS)
T1–T3	Quality Area 1: Educational program and practice
T1	Quality Area 2: Children's health and safety
T2	Quality Area 3: Physical environment
	Quality Area 4: Staffing arrangements
T1–T3	Quality Area 5: Relationships with children
T1–T3	Quality Area 6: Collaborative partnerships with families and communities
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	Early Years Learning Framework
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T1–T3	Respect for diversity
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T2	Holistic, integrated and interconnected approaches
T2, T3	Responsiveness to children
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T2	1. Children have a strong sense of identity
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T2	3. Children have a strong sense of wellbeing
T2, T3	4. Children are confident and involved learners
T2, T3	5. Children are effective communicators

Topic 1

In this topic you will learn about:

1A Environmental principles

1B Eco-literacy

Environmental responsibility

The environment is made up of many systems that work together to create a healthy planet.

By understanding how these systems work, you will be able to recognise the impact that humans are having on this balance and understand the importance of sustainable practices.

1A Environmental principles

Principles of environmental responsibility and sustainability are built into the National Quality Framework (NQF).

The approved learning framework in the education and care industry is *Belonging, being and becoming: The early years learning framework for Australia* (EYLF). Learning Outcome 2 states: 'Children are connected with and contribute to the world'. This focuses on the learning children gain from the environment and communities where they belong.

Laws, regulations and standards guide services and educators to include natural environments and environmental learning in daily routines and practices as an effective way to promote children's learning. Specific links are shown in the following table.

Requirement	Reference	Guideline
Education and Care Services National Law and Regulations	Regulation 113 – Outdoor space—natural environment	The outdoor spaces provided at the education and care service premises allow children to explore and experience the natural environment. For example, use natural features such as trees, sand and natural vegetation.
National Quality Standard (NQS)	Element 3.2.1 – Outdoor and indoor spaces, buildings, fixtures and fittings are suitable for their purpose, including supporting the access of every child	Aims to achieve indoor and outdoor environments that are environmentally sustainable through their design and facilities.
	Element 3.2.3 – The service cares for the environment and supports children to become environmentally responsible	Encourages educators to model sustainable practices, show appreciation for the natural environment and promote children's understanding of their responsibility to care for the environment.

Environmental responsibility is indirectly addressed in some of the quality areas of the NQS. The following are some examples.

Quality area	Guideline
Quality area 1 – Educational program and practice	Curriculum should: › relate to children's interests and connect them to their community › maximise each child's learning › be deliberate, purposeful and thoughtful › be responsive and involve children through ideas, questioning, interactions and feedback › promote agency by offering choices and decisions that influence their world.

Quality area 2 – Children's health and safety	Educators should provide adequate protection and supervision so children are not at risk.
Quality area 5 – Relationships with children	Children should be supported to collaborate, learn from and help each other.
Quality area 6 – Collaborative partnerships with families and communities	Family views should be respected and their expertise, values and beliefs should be included as part of shared decision-making. Educators should provide information for families that resource their wellbeing. Partnerships allow engagement with the community.
Quality area 7 – Governance and leadership	Philosophy should be based on standards, policies and procedures. A continuous improvement process must occur by using a Quality Improvement Plan (QIP). All staff must participate in regular performance review for professional development.

The Early Years Learning Framework (EYLF) includes the Principle: Sustainability. This principle has a focus on environmental, social and economic sustainability.

Service policies and procedures are based on the National Quality Framework (NQF) and EYLF components and include:

- child safe environment policies
- educational program policies
- environmental sustainability policies
- relationships with children policies
- governance and leadership.

For more information about the NQS, go to: aspirelr.link/national-quality-standard.

Biodiversity

Biodiversity refers to all things that are living on earth.

This includes people, plants, animals and other organisms. There are three types of biodiversity:

- Species diversity – The groups of living things with similarities, such as mammals, birds, insects and plants.
- Genetic diversity – The differences between each of us is determined by our genetics. Each living thing belongs to a species, but has its own individual genetic makeup.
- Ecosystem diversity – The different environments required by different species. Each ecosystem varies depending on its needs. A coral reef, a desert, forest or stream are all different types of ecosystems.
- You can demonstrate sustainable practices by supporting biodiversity. You might do this by creating environments where living things are provided with all they need to thrive.

You can find out more about biodiversity at: aspirelr.link/biodiversity.

Life on earth

Life on earth is described using various terms that are broken down in an organised way.

This is shown in the following table.

	**Individual** A single organism such as a person, a tiger, a mushroom or a tree.
	**Population** Multiple organisms of the same species that live in the same area. For example, a population of bees may live in one hive and another population of bees in another hive.
	**Community** Two or more populations or species that exist in the same area. For example, a variety of animals living in a forest could be called the forest community.
	**Ecosystem** The living and non-living parts of a system that rely on each other to stay healthy. For example, the health of a pond may rely on water, fish, frogs, birds, bacteria, sun, soil and plants.
	**Biosphere** The biosphere refers to all ecosystems on earth.

Ecosystems

An ecosystem is a system made up of living and non-living parts that rely on each other to stay healthy.

Each part contributes in some way to the health of the system.

Ecosystems support organisms by helping to:

- clean water
- filter air
- modify the temperature
- clear natural waste
- keep soil healthy
- balance the number of each species.

The greater the variety of life in an ecosystem, the healthier and stronger it will generally be.

Plants, animals, soil and water go towards creating an ecosystem.

The necessities for life on Earth are sunlight, air and water. Together with plant life, which functions to prevent erosion of the soil, conserve ground water and convert carbon dioxide to oxygen; they form a sustainable ecosystem.

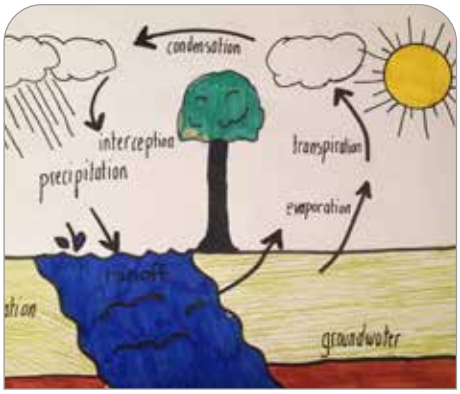
An example of an ecosystem is when insects and animals pollinate plants and distribute their seeds. This allows more plants to grow, which provides food for more animals. For example, some plants supply nectar that bees collect and use to pollinate the plants so they can produce flowers and fruit. The fruit is then eaten by animals, which distribute the seeds so more plants can grow. All life produces organic waste and dies, fertilising the soil, which nourishes plants; in this way the cycle continues.

Ecosystems can be explored and discussed at varying levels of complexity. There are a number of resources online for children at: aspirelr.link/eschool-ecosystem.

Water cycle

An important aspect of an ecosystem is the water cycle.

Rain falls on the land, runs off into rivers, lakes and oceans, and is evaporated back into the atmosphere. Water provides nourishment for plants and animals and also provides a habitat for some species. Water returns to the atmosphere through evaporation, transpiration and condensation; clouds then form and it rains again, so the cycle continues.



The water cycle is an important part of a healthy ecosystem.

Food chain

Another important aspect of an ecosystem is the food chain.

This shows how plants and animals rely on each other to exist.

	Plants are producers. They use the sun, carbon dioxide and water to make food for animals.
	Primary consumers eat plants. They are called herbivores.
	Secondary consumers eat animals that eat plants. They are omnivores (animals that eat meat and plants) or carnivores (animals that eat meat only).
	Predators are carnivorous animals. They have few enemies and hunt other animals for food.
	Decomposers such as fungi and bacteria break down dead plants and animals. This returns nutrients to the soil and water.

Sustainability

Sustainability is about maintaining the balance of ecosystems and retaining the biodiversity of Earth.

It encompasses the actions you can take to reduce your impact on the environment, which is called being environmentally responsible. Sustainability includes a focus on conserving resources and energy as we seek ways to reduce or eliminate the amount of pollution produced, protect natural resources and save environments that have not yet been depleted.

These areas must be addressed through the following aspects:

- Environmental sustainability (planet) – Making sure our world is cared for and protected.
- Social sustainability (people) – Making sure people are cared for and protected.
- Economic sustainability (profit) – Caring for the environment and people in ways that are cost-effective and can be maintained.

The United Nations Sustainable Development Goals include the following:

1. No poverty
2. Zero hunger
3. Good health and wellbeing
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible production and consumption
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals

The United Nations has created 17 goals for sustainable development.

Each of these goals directly correlate with either environmental, social or economic sustainability actions.

You can read more about the UN Sustainable Development Goals and watch a video at: aspirelr.link/un-sustainable-development-goals.

You can find ideas for talking to children about sustainability at: aspirelr.link/ollies-world.

Practice Task 1

1. Draw a line to match each aspect of the National Quality Standard or Education and Care Services National Regulations on the left to the correct guideline on the right.

* NQS Quality area 1 as well as EYLF Outcome 2	* A philosophy should lead educator practice and should show the goals of any quality improvement process.
* NQS Quality area 5	* The service cares for the environment and supports children to become environmentally responsible. Outdoor and indoor spaces are organised and adapted to support every child's participation and to engage every child in quality experiences in both built and natural environments.
* NQS Element 3.2.1, Element 3.2.3 and Regulation 113	* Curriculum should promote agency by offering choices and decisions that influence their world. Children are connected to and contribute to their world.
* NQS Quality area 2	* Children should be supported to collaborate, learn from and help each other.
* NQS Quality area 6	* Family views should be respected and their expertise, values and beliefs included as part of shared decision-making.
* NQS Element 7	* Educators should provide adequate protection and supervision so children are not at risk.

1B Eco-literacy

Eco-literacy involves knowledge of biodiversity, ecosystems and human impact on the environment.

If you are eco-literate it means that you recognise that your actions can have a damaging impact on the environment.

For children, eco-literacy involves understanding what they can see. You can support their eco-literacy by providing information to help them notice or recognise things they cannot notice themselves.

Global issues

Sustainability involves realising that our wellbeing is dependent on the health of the planet and that the resources we rely on daily are not limitless.

To respond to this, we must be environmentally responsible.

Everything we do involves the use of materials and resources, both natural and man-made. Even man-made products are derived from nature; for example, plastics are made from petroleum products, which are derived from naturally occurring, ancient, irreplaceable fossil deposits. Every aspect of our life is dependent on the natural world and our relationship with it.

Your understanding of environmental responsibility allows you to teach children and this can make an impact on their future. This provides them with eco-literacy.

Human impact

Humans have had a profound effect on the environment, causing mass devastation in many regions.

Pollution, waste dumping, excessive hunting of animals, gas emissions, tree cutting, energy consumption and discarding non-biodegradable materials are several examples of how humans have negatively impacted the fine balance of the atmosphere, sea and land.

Humans are responsible for harming the environment, including through waste that goes to landfill.

The world is now much wiser about the impact human activity can have on the environment. However, in some cases the damage has already been done or restorative action is being undertaken too slowly.

You have the chance to educate future generations about their important role in caring for the environment. Your service can become the place where simple acts of sustainable practices are modelled.

Earth's resources

The natural resources on Earth are not limitless.

It has taken millions of years to create the resources people use. Buildings are made of stone, concrete and metal – materials all mined from the ground. They are lit, heated and cooled using energy from ancient fossil fuels.

Coal, gas and oil are examples of non-renewable resources.

Sources of food, both plants and animals, are living things that depend on a sustainable environment for continued production. Most of the things people use need to be transported, sometimes from across the world, using fossil fuels to power ships, planes and trucks.

On land we build roads, dams, cities and mines, reducing the natural environment and associated life and ecosystems. Gas and oil rigs damage the ocean floor.

Everything you do requires a fully functioning and healthy ecosystem. It's hard to imagine what life would be like without any of these resources, but they will eventually run out if they continue to be used at the current rate.

Ozone layer

The ozone layer in the Earth's atmosphere acts to protect the earth from the sun's UV radiation.

UV radiation has been linked to skin cancer, genetic damage and immune system suppression.

Holes in the ozone layer over parts of the southern hemisphere, including the Antarctic and Australia, have been caused by the emission of ozone-depleting substances. These substances are commonly used in refrigerators, air conditioners, fire extinguishers, dry cleaners, electronic equipment and agricultural fumigants.

Climate change and the greenhouse effect

Climate change and the greenhouse effect refer to changes in the Earth's climate over decades.

The average temperature of the Earth is rising; this is known as global warming. This warming of the climate has been recorded since the industrial revolution, when fossil fuels were first burnt to power machinery.

The Earth's atmosphere naturally contains greenhouse gases, which absorb radiation, protect the planet from the freezing temperatures in space and keep the planet warm and capable of supporting life. However, our increasing reliance on fossil fuels – petrol, coal, oil and natural gas – has dramatically increased the amount of carbon dioxide (one of the main greenhouse gases) in the atmosphere.

The other significant contributor to the continuing increase in greenhouse gases is tropical deforestation for agriculture to feed the growing human population.

As a result of these factors, the climate and the oceans are warming, sea levels are rising, and extreme weather and temperature conditions are occurring. If these remain unchecked, they threaten the natural environment and the ability of all living things, including people, to survive.

Carbon footprints

The amount of carbon dioxide released into the atmosphere can be measured as a carbon footprint.

A carbon footprint usually relates to an activity, an event or a set of events.

Carbon counting involves responding to questions regarding:

- building size
- energy consumption
- appliances
- transport
- food
- waste disposal
- purchasing
- recreational activities.

Your carbon footprint is affected by what and how much you eat, if you drive to work, how well you recycle and many other actions of your daily life. There are a number of online carbon footprint calculators. They allow you to enter the actions of your home or service to determine the level of carbon dioxide produced. The aim is to reduce this amount as much as possible.

It is common to see carbon offset options where consumers are encouraged to donate or act to replace their use. For example, you might donate to offset a flight and this donation may be used to plant trees.

A range of carbon footprint calculators are available on the internet, such as at: aspirelr.link/agc-app.

Children can also be involved in calculating their carbon footprint.

Further environmental impacts

Many other actions of humans cause environmental degradation.

The following table outlines some further ways humans may negatively impact the environment.

Action	Description	Impact
Wildlife trade	Wild animals are being illegally killed, poached and trafficked. Some are used for their parts (such as ivory and fur), while others are kept illegally as pets. Hunting parties kill wild animals as a sport.	- Depleting animal numbers, causing risks of extinction and decreased biodiversity.

Action	Description	Impact
Food waste	Humans discard over a third of all food produced. Food is thrown away at all stages of producing, processing, retailing and consuming. If a week's worth of the waste foods of Australia, USA and Europe were provided to those without food, every person in the world would be fed.	➢ Food waste ends up in landfill and turns into methane. Methane is a greenhouse gas that depletes the ozone layer at a rapid rate. ➢ Excessive food production causes wasted water.
Bycatch and illegal fishing	Nets and lines used for commercial fishing catch fish that are two small to eat, as well as dolphins, marine turtles and seabirds. These are discarded and often left to die. Control of the amounts of fish taken from the ocean is difficult to manage due to illegal fishing markets.	➢ Sea life is reducing in number, having a negative effect on the ecosystem.
Deforestation and forest degradation	Forests, particularly rainforests, purify air and water as well as removing carbon dioxide from the atmosphere. Many animals rely on forests for their homes and food. Forests are being reduced in size rapidly as housing, agriculture, legal and illegal logging, gold and oil discovery are prioritised.	➢ Reduced habitat for animals ➢ Climate change through an imbalance in ecosystems ➢ Desertification and soil erosion ➢ Flooding ➢ Increased greenhouse gases ➢ Reduction of rights and living conditions for Indigenous people
Pollution	Toxic chemicals from industrial processes, rivers damaged by fertilisers from farms, rubbish blowing away from tips and smog kill wildlife and make Earth dangerous for humans and animals to live.	➢ Pollution not only affects the surrounding area, but indirectly pollutes distant landscapes. ➢ Billions of people around the world have unclean drinking water and many lack sanitation. This creates a situation where disease can spread rapidly.
Soil erosion	Agriculture – growing crops – damages soil over time and breaks it down to a point where it is salty and lacks nutrients. The effects can be increased as this soil enters waterways such as rivers, causing fish and other life to die.	➢ Soil salinity. ➢ The soil cannot hold together and washes away, causing erosion. ➢ Increase in flooding. ➢ Clogged waterways. ➢ Reduced water life.

Practice Task 2

1. Which of the following statements about key global issues are correct? Select yes or no for each one.

a.	Biodiversity refers to the sustainable cycle between ecosystems. These ecosystems include plants, animals and human life.	* Yes	* No
b.	Earth's resources are endless. Ecosystems are created in ways that make renewable energy.	* Yes	* No
c.	The ozone layer is the Earth's protection from the sun's UV radiation.	* Yes	* No
d.	Greenhouse gases occur naturally in the atmosphere and absorb radiation. This protects the planet from the freezing temperatures in space to keep the planet warm and capable of supporting life.	* Yes	* No
e.	Climate change refers to the changing seasons of summer, autumn, winter and spring.	* Yes	* No
f.	Eco-literacy is best taught through reading and writing.	* Yes	* No

Summary

- Biodiversity refers to all things that are living on Earth.
- An ecosystem is a system made up of living and non-living parts. Each part contributes in some way to the health of the system.
- Sustainability is about maintaining the balance of ecosystems and retaining the biodiversity of earth.
- The foundations of eco-literacy involve biodiversity, ecosystems and recognising human impact on the environment.
- For children eco-literacy involves understanding what they can see. This will be supported by providing information that allows them to understand what happens that they are unable to notice without support or explanation.
- Sustainability involves understanding that our wellbeing is dependent on the health of the planet and that the resources we rely on daily are not limitless.

Learning Checkpoint 1
Environmental responsibility

1. Which of the following laws, regulations, standards and policies should you focus on to gain further information about natural environments so you can support children's learning? Select all that apply.

   - [ ] Learning Outcome 2 of the EYLF
   - [ ] Regulation 113 of the Education and Care Services National Regulations
   - [ ] Element 3.2.3 of the NQS
   - [ ] Element 7.2.2 of the NQS
   - [ ] Quality area 6 of the NQS

2. Identify one impact for each of the following key global issues relating to the environment.

   a. Climate change and the greenhouse effect

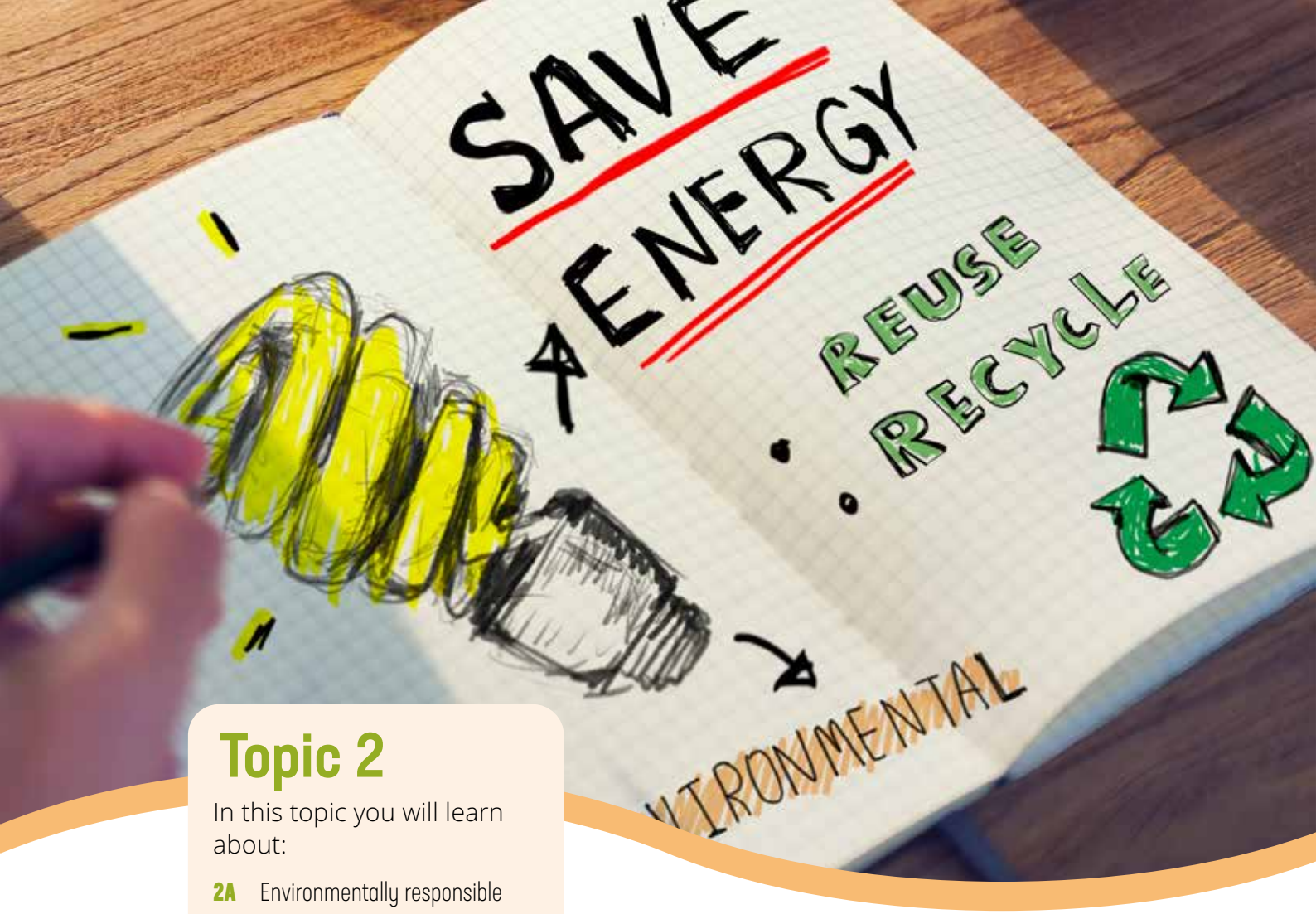
   b. Bycatch and illegal fishing

   c. Deforestation and forest degradation

3. Select true or false for the following statement.

When educators teach children to be environmentally responsible and to understand the impact of human activity on the environment, they are helping children to increase their eco-literacy.	* True	* False

4. Describe the three types of biodiversity.



Topic 2

In this topic you will learn about:

- **2A** Environmentally responsible practice
- **2B** Environmentally friendly materials
- **2C** Focusing on sustainable practice

Environmentally responsible curriculum

Environmental education and sustainable practices should be incorporated into the curriculum and become part of your daily practice.

By teaching children to be environmentally responsible, you can demonstrate why each part of our world is important.

In your day-to-day actions you can model and discuss the importance of observing nature and interacting with it in a way that does not disturb its balance.

2A Environmentally responsible practice

Children can be introduced to environmental responsibility through intentional teaching or planned experiences, and through collaborating or consulting with others.

Learning can begin with simple actions and expand into more complex thoughts and ideas.

When educators are enthusiastic and experiences are varied, children will be more engaged and interested in being environmentally responsible..

Modelling

When children see adults demonstrating respect, care and appreciation for the environment on a daily basis, they will implement this as part of their normal practice.

The following guidelines may help you model these behaviours towards natural and constructed environments.

Sustainable responsibilities and practices include:

- turning off the water after washing hands
- turning off the lights when leaving a room
- putting away equipment and materials after using them
- recycling paper and cardboard
- putting on a jumper instead of turning on the heater
- composting food scraps and using worm farms
- gardening and cooking
- caring for a pet
- finding ways to reuse or recycle water
- caring for materials and equipment.

Aboriginal and/or Torres Strait Islander peoples

For many cultures, respect for the environment is central to their belief system; this is particularly so for Aboriginal and Torres Strait Islanders.

Nurturing children's relationship to the land helps them learn about the environment and develop a strong sense of identity.

Indigenous Australians were sustainable in their practices. Among other things, they:

- watched for changes in the behaviour of plants and animals and determined the season based on these
- moved to areas where foods were plentiful, based on the season - eating seasonal foods

- made sure their actions would not disturb the natural environment, including the growth of plants and animal habitats
- used native plants as medicines
- allocated groups of individuals various responsibilities, such as one group would take care of land, one group water, another animals
- created bags, clothing and utensils from natural materials, these could go back into the land when finished with
- placed their waste in a pile called a midden or shell heap. This may be animal bones, used plants, artefacts and used tools. The midden provided a message to others coming into the area, letting them know what has already been used. This way the newcomers would plan sustainably so they did not eat or use materials that may be in short supply.

The information you know, gather or access from others, including Elders and others, can be used to manage sustainability practices in your service. Children can be encouraged to learn about and discuss these practices and think about how they might apply similar practices in the service.

Example

Seasonal calendar for the Melbourne area

The Wurundjeri people of Melbourne had their own way of marking the changing seasons. Dr. Beth Gott of the School of Biological Sciences, Monash University has compiled a seasonal yearly calendar used by Aborigines. You can read more about the seasonal calendar here:

aspirelr.link/herring-island-calendar

Intentional teaching

Intentional teaching is purposeful delivery of learning that is meaningful to the children.

It may take the form of a group activity or one-on-one learning, and requires thought and timely delivery. Intentional teaching may lead to a project or may introduce a new topic.

You might use intentional teaching when you model environmentally sound practices, by communicating the reason with children. For example, when you use vinegar to wipe benches this will go unnoticed by children unless you make a point of discussing the reason for this choice.

Provide children knowledge about the world and how it works by helping them learn:

- where things come from
- how they are made
- what processes and structures are needed to produce things.

Include how these link with the environment and what is taken or provided by the environment to allow these things to happen.

Exchanging ideas

Children can be encouraged to be environmentally responsible through a range of activities and experiences.

Collaboration and consultation help this learning to be fun and educational, and allow children to provide their ideas and share their knowledge and skills.

The following table outlines some ways children can be involved in sharing ideas.

Activity	How to involve children
Being involved in policy or philosophy development	➤ Ask children what they want their world or play space to look like. ➤ Have children write about or draw the things they like about the natural and man-made environment. ➤ Ask children what they can do to improve the environment.
Sharing knowledge	➤ Invite children to talk about their pets and favourite animals, including how they are cared for. ➤ Provide opportunities for children to share experiences in the natural environment; for example, camping in the bush or swimming at the beach. ➤ Invite children to talk about energy-saving measures or sustainable options they use at home.
Learning new ideas	➤ Encourage children to use books, DVDs, puzzles, games, posters, newspapers and the internet to learn. ➤ Allow children to watch educational videos, blogs and cartoons.
Taking ideas home	➤ Create learning stories that demonstrate environmentally responsible actions children have participated in. ➤ Work together to develop an environmental audit for families (a list of ways they can demonstrate environmental responsibility at home). ➤ Have children write a letter to a local hardware store asking if they will discount sustainable resources if a number of families make a purchase (e.g. water tanks, compost bins or worm farms). ➤ Invite donations of second-hand materials and items from home. ➤ Alert families to community incentives, for example, local government worm farm discounts or compost bin giveaways.

Children may also be engaged in or experience environmentally responsible practices through their family and community connections, such as:

- community tree planting days
- recycling at home
- river improvement schemes
- local diversity groups
- working in a garden or community garden
- political discussions regarding planning permits that may damage the environment.

Discussion

Children gain an understanding of environmental responsibility if they are involved in discussions and learning experiences that build on their knowledge and skills, and involve what they see every day.

Your actions and comments will stimulate discussion about sustainable practices, encourage children to share their thoughts and ideas, and help them understand why you are taking sustainable measures.

Opportunities to discuss the environment with children may arise:

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

To increase children's understanding of environmental responsibility, you could:

- use the outdoor environment more often
- incorporate natural elements into the environment; for example, plants, trees, edible gardens, sand, rocks, mud and water
- encourage children to touch, listen to, look at and smell the environment
- use stories, songs, movement and poetry.

There are a number of strategies you can use to encourage children to discuss environmental issues and sustainable practices. You might simply ask questions, such as:

- Why do we do this?
- What do you think would happen if ...?
- Where did this come from?
- What happens to this when we are finished with it?

This may lead to a short discussion or develop into a longer project.

Example

Experiences emerging from discussion

It is a cold, rainy day. Droplets of water are forming on the windows and puddles are on the ground outside.

Educator: 'What would happen if we went outside in the rain?'

Children: 'We'd get wet.'

Educator: 'Is anything else getting wet?'

Children: 'The ground, the cubby house, the trees …'

Educator: 'Do you know where rain comes from?'

A discussion begins and questions are raised. Some questions are answered in the course of the discussion, while other questions require further investigation.

Different age levels are able to pursue this theme:

- Babies and toddlers use their senses to feel rain on their skin, to learn the word 'rain' and to be involved in activities around rain, such as singing and finger plays.
- Preschoolers investigate plants' and animals' need for water.
- School-age children look into the broader uses of rainwater.
- Children investigate evaporation and condensation as components of the water cycle.

Discussions evolving into projects

The best time to engage in discussions with children is when they express interest in a particular topic.

Discussion may evolve into larger projects, particularly with older children.

This may involve a brief conversation, become the basis for some fact-finding, or develop into a project that generates a range of activities.

There are many discussion topics related to the environment that are suitable for children. For example:

- How do you breathe air?
- Why do you drink water?
- How does the sun keep you warm?

Older children may want to investigate relationships between aspects of their environment, such as why it rains or what causes rain. These discussions are usually more complex and may extend into larger projects that span hours, days or weeks.

Resources

Many resources for environmental education appeal to children of all ages.

These may include:

- plants, insects and animals
- everyday objects made from natural materials
- collections of natural materials, such as shells, leaves and feathers
- fiction and non-fiction books
- songs.

There are many videos available on YouTube that explain environmental topics. Some are created for children; they are fun and explain concepts in a simple manner. You can show these to children to discuss or demonstrate a concept, or watch them on your own to gain ideas for activities or intentional teaching.

You can find activities related to environmental concepts in your local area or with people in your community.

You can draw on community resources by:

- visiting different local ecosystems, such as a beach, river, wetland or park
- visiting local organisations, such as a sustainability information centre
- visiting a local recycling centre
- inviting members of the community to visit and speak to the children or run a workshop
- inviting people who present plays to children on environmental themes
- inviting people to bring animals into the service
- going to the zoo, aquarium or a petting farm.

Feedback and evaluation

Children can give feedback and evaluation, and even identify improvements to experiences and projects they have been involved in.

This can be accomplished by allowing children to discuss their experiences. You might ask questions such as:

- What did you learn?
- What else could we investigate?
- What did you enjoy most?
- What would you like to do again?
- What didn't you like?
- What would you do differently?
- Where can you get help?
- How can you find out more?

Children will give feedback spontaneously. They might become excited, disengaged, concerned or have further questions. These situations provide opportunities for discussions identifying what the issue might be and involving the children in coming up with solutions, trying them out and discussing the outcomes. Observe and try to understand why an experience or project doesn't work, otherwise, you can actively discuss what children find interesting or fun.

Example

Involving children in sustainable activities

The children in Xina's service have been involved in creating a vegetable garden. They helped with the physical tasks and in the decision-making process. The children contributed to discussions about where to put the garden, how big it should be and what to plant in it.

For the project to succeed from this point, there are a number of activities Xina plans to do with the children:

- She will provide resources to find out what plants need to thrive. The children will then create posters illustrating the plants' needs.
- She will have a discussion about what they need to do to care for the plants.
- She will lead a discussion about the importance of each of these tasks and how the jobs are to be divided up; this will assist the children in taking responsibility.
- With the children's input, she will compile a schedule of tasks to be done, on what day and by whom.

This schedule will be recorded and put on display. Each day the schedule will be consulted and the children will assist with their roles.

Shared teaching

Educators and other staff can be involved in identifying sustainable options, researching, implementing changes and providing learning opportunities.

There are many opportunities both inside and outside the service you can take advantage of. Some ways to encourage learning about sustainability are outlined in the following table.

Educators	➤ Use natural resources where possible, such as drying washing outdoors in the sun. ➤ Use 'green housekeeping' practices, such as minimising waste, recycling, and reducing water and energy consumption. ➤ Plan excursions and incursions focused on sustainable practices, such as: – visiting a recycling centre – contacting the local council to run sustainability workshops or events – visiting the zoo to learn about animals and conservation. ➤ Invite families and other community members to share their sustainable ideas and practices. ➤ Work with families and children to research native wildlife. ➤ Draw attention to the displays and literature about environmental issues at the service.
Cooks	➤ Source organic food. ➤ Recycle food waste.

Cleaners	➤ Source biodegradable cleaning products. ➤ Make and use simple homemade natural cleaning agents.
Maintenance workers	➤ Use natural pesticides. ➤ Conserve water. ➤ Repair damaged items.
All staff	All adults should model practices that encourage environmental responsibility; for example: ➤ recycling water from water play into the garden ➤ emptying children's drinking bottles onto the garden ➤ asking families to bring in recyclable items to use for arts and craft ➤ using environmentally friendly products.

Sharing difficult concepts

Children can be alarmed and overwhelmed by information about the destructive effects of human activity on the planet.

It is a good idea to delay topics relating to major environmental destruction until children have developed a real sense of environment and can understand difficult concepts. If you introduce information about issues such as climate change too early, you may confuse the children with abstract concepts and create fear of things that are out of their control. Any resources presenting negative effects of human activity should also include positive ideas and solutions, which will foster a sense of empowerment.

Example

Sharing difficult concepts

Holly (five years) was part of a group activity which included discussion about ozone holes and climate change. Following the discussion Holly was unsettled.

The next morning Holly's mum, Brenda, called and asked what had happened the day before. Holly had trouble sleeping and had nightmares. Holly told her mother that she was scared because the world was going to get too hot and she would burn and die.

Holly's educator provided further intentional teaching to the group. She used pictures and further research opportunities to show how climate change would slowly alter flora and fauna across the globe. She paid particular attention to questions children asked. She also checked in with each child to be sure they understood the concept and that they felt safe.

Practice Task 3

1. Draw a line to match each method for implementing an environmentally responsible curriculum into daily practice to its example.

* Intentional teaching	* The educator uses a broom to sweep the paths rather than a hose to wash the paths down.
* Projects	* The educator encourages the children to talk about their pets and how they look after them.
* Exchanging and discussing ideas	* As the children are washing their hands, she talks to them about the benefits of saving water. They then use the tubs to water the plants. This leads her to discuss the interdependence between people, plants and animals.
* Modelling	* The educator works with the children to decide where to put a vegetable garden, how big it should be and what they want to grow. They want to include indigenous food sources along the border.
* Feedback and evaluation	* The educator organises for the children to visit a vet clinic. This follows a group investigation of what cats need to keep them healthy.
* Community resources	* The educator asks the children about watering cans. She wants to know if they are easy to fill, carry and pour.

2B Environmentally friendly materials

A learning space that respects the environment should reflect nature as much as possible.

It should be pleasing to the eye and calming to the mind.

Eco-friendly materials include:

- items from nature, such as pine cones, leaves, pebbles and logs
- equipment made from natural materials, such as hessian, timber train sets and cane baskets
- upcycled items – items that have been repurposed.

The environment should be coloured with the tones of grass, wood, cane, leaves and sand.

Aim to provide a natural environment.

Natural materials

Natural elements in the environment should stimulate exploration and open-ended experimentation.

When presenting materials and resources, think about the message being sent. Ensure children feel safe, involved, comfortable and intrigued by the setup. An uncluttered, simple display without distractions allows children to focus on play and learning.

Natural materials allow you to easily set up a space that sends this message and reflects positivity and calmness. When you couple these natural elements with upcycled objects, the play space becomes a more interesting and enjoyable place.

By using purposeful, goal-orientated and intentional teaching experiences, these elements can be enhanced. This will project a message about your values and maximise opportunities for children to explore.

Convenient and easy-to-use natural items include woven placemats and cane baskets, things that children will incidentally interact with. You can create games and experiences using natural materials. For example, barriers and borders can be created using rocks, tyres, pebbles, logs or rows of pot plants. Play furniture can be made with wood.

Natural materials can be sourced from:

- the garden or a garden centre
- excursions into the natural environment
- children's homes
- craft stores
- art supplies.

Children may also be involved in thinking about and sourcing natural materials.

The following outlines some examples of discussions and experiences you could provide.

Discussions	Experiences
➤ What shape are the materials? ➤ Where do they come from? ➤ What are they naturally used for? ➤ What can they be used for now? ➤ Why is it important to leave them in the environment? ➤ Which animals might use them and what would they use them for?	➤ Create a log of the things you find. Draw or photograph them. Name them or find out their names. ➤ Inspect items using a magnifying glass. ➤ Sort natural materials from man-made materials.

Moving to natural materials

It may not be possible to immediately change your indoor and outdoor environments from man-made to natural.

If your environment contains a lot of equipment created from man-made materials, you may need to change slowly.

You may not be able to achieve a totally natural environment in the service. However, with careful planning, consultation and a little imagination, you can move towards creating an environment that expresses the principles of sustainable living and encourages interaction with nature.

A sand drawing is an example of a natural experience you could provide.

You could start to adapt your environment by swapping one or two synthetic items for natural materials. Try looking for these items in a second-hand shop or asking parents to donate unwanted items.

Some ideas for experiences that use natural materials are presented in the following table.

Experience	Examples using natural materials
Art	➤ Drawing with charcoal ➤ Scraping sticks in wet sand ➤ Wool weaving ➤ Printing with leaves ➤ Painting using feathers
Sensory play	➤ Feeling sand, water, mud and pebbles with closed eyes
Sorting activity	➤ Sorting seed pods, leaves, pebbles, gumnuts and shells
Science	➤ Floating feathers and leaves in water ➤ Sinking pebbles and shells in water ➤ Growing seeds and bulbs ➤ Looking at the bodies of garden creatures like slaters, worms and caterpillars ➤ Finding out about different parts of plants ➤ Thinking about similarities and differences between natural objects
Maths	➤ Putting objects like pebbles or timber offcuts in order of size ➤ Counting shells, seed pods, vegetables, eggs, petals and leaves
Music	➤ Scraping pine cones and coconut shells ➤ Tapping sticks ➤ Banging stones
Dramatic play	➤ Creating scenes with branches, feathers, shells, logs and rocks

Upcycled materials

Upcycled materials are waste products that are used creatively.

Using upcycled materials in the play space demonstrates reuse and looking after the environment. It also helps children think creatively as they decide how to use the objects in different ways.

Upcycled materials can be sourced from:

- families
- the service office
- a nearby factory
- recycling/upcycling warehouses
- second-hand stores.

Upcycling means reusing materials such as empty containers for a different purpose.

Some ideas for incorporating upcycled objects in experiences are presented in the following table.

Materials	Experience ideas
Old pots and pans	➢ Home play ➢ Sand play ➢ Potting plants ➢ Watering plants
Wooden trays, bowls, dishes and cutting boards	➢ Home play ➢ Sorting games
Glass jars and bottles	➢ Paint, glue or water jars ➢ Potting plants ➢ Watering plants ➢ Decorating
Nuts, bolts, nails and screws	➢ Sorting ➢ Matching ➢ Sequencing ➢ Woodwork
Miscellaneous items (such as bottle tops, paper towel rolls, egg cartons, used paper, wood scraps, food packaging, corks, buttons, fabric, wool, cards, yoghurt containers, shredded paper or pipes)	➢ Matching ➢ Sorting ➢ Pasting ➢ Building ➢ Collage ➢ Dramatic play ➢ Construction ➢ Floating and sinking ➢ Counting ➢ Sewing ➢ Weaving ➢ Home-made musical instruments ➢ Sand play ➢ An 'invention centre' or 'creation station'

Children can become involved in upcycling by donating materials from home and through excursions to second-hand stores or charity shops. This might include seeing the items available, finding out about the upcycling process or discussing what customers might be looking for.

Example

Using upcycled materials

Mia is an educator who is driving down her street when she spots a garage sale with an old camp sink, some metal containers, and old pots and pans. She buys them for a few dollars and uses them to set up a sand kitchen. Mia sets up the sink in the sand pit and puts different items like sticks, gumnuts, leaves and straw in the metal containers for the children to use in their 'cooking'. She displays items in an organised and uncluttered way.

Children reimagine the sand pit. They decorate pies, and use the sand for ingredients. They explore utensils, table decorations and money. The children want containers for their pies, so Mia adds a variety of upcycled containers.

Practice Task 4

1. Draw a line to match the beginning of each sentence about environmentally friendly curriculum to the correct ending.

* Natural materials and elements	* allow the children to focus on play and learning.
* Upcycled materials	* send a message that reflects calmness and positivity, while stimulating exploration and open-minded experimentation.
* Uncluttered, simple displays	* can be achieved by swapping synthetic or man-made items for natural materials.
* Eco-friendly materials	* demonstrate caring for the environment and can be used in many different areas, both indoors and outdoors.
* Sustainable environments	* include items from nature, equipment made from natural materials and repurposed materials.

2C Focusing on sustainable practice

The environment provides excellent opportunities for children to develop life skills and increase their eco-literacy.

With imagination and careful planning, you can create opportunities for children to learn about environmental responsibility through topics such as:

- environmental understanding
- caring for plants
- caring for animals
- waste reduction.

Encourage children to show interest in the natural environment.

Environmental understanding

Earth is made up of many wonderful, exciting and confusing things.

There is a never-ending list of things to explore. From everyday items to landscapes and ecosystems, children can constantly become engaged in learning.

The following table outlines some ideas for experiences, projects and discussion.

Topic	Discussions	Experiences
Everyday activities	➤ Where do foods come from? ➤ Where does the toilet flush go? ➤ How does water come from a tap? ➤ Where do you live? ➤ What do pets need? ➤ Why is everyone different? ➤ Where do we get energy for lighting and cooking?	➤ Go on an excursion to a farm. ➤ Find out about different types of houses across the world and what they are made of. ➤ Adopt a pet and care for it as a group. ➤ Develop a family tree. ➤ Organise a picnic.

Topic	Discussions	Experiences
Ecosystems	➤ How does each component in the environment have a part to play? ➤ Notice things in the environment and point them out. ➤ Replace things borrowed from the garden after use. ➤ Avoid killing or damaging animals and plants.	➤ Look at how each living thing links to another; for example, birds eat the snails and insects in the garden. ➤ Establish an ant farm to find out how ants live. ➤ Learn about food chains. ➤ Explore the lifecycle of a butterfly. ➤ Keep a cloud diary, with pictures of the sky and what the weather looks like each day. ➤ Visit different types of landscapes through excursions and discussion using photos, posters and children's experiences. ➤ Play a quiz on the topic of animals, minerals or vegetables. ➤ Visit a reserve to experience a natural environment.
Climate	➤ Comment on the weather. ➤ Explain why you open windows to allow fresh air to circulate. ➤ Talk about the seasons.	➤ Collect materials or photos of the weather or seasons; for example, Autumn leaves, frost, rain, lightning and sunshine. ➤ Listen to the sound of trees in the wind. ➤ Watch weather changes. ➤ Introduce a weather radar app and predict rainfall. ➤ Share UV levels and watch the app, talk about what this means and why sun protection is important.
Shopping	➤ The source of different products. ➤ Carbon footprints. ➤ Explain why to purchase from a local supplier.	➤ Visit a local factory. ➤ Visit your local farmers' market. ➤ Investigate where petrol comes from. ➤ Learn how petrol is used to power a car. ➤ Go on excursions to farms, markets or supermarkets. ➤ Find out about manufacturing by reading, watching videos or other internet research. ➤ Identify supply chains or where the things we use come from, for example investigate the supply chain of: – toys – food – electricity – gas.

Toxin-free cleaning

Toxic chemicals are commonly used to kill bacteria and clean without effort.

Unfortunately, bacteria is part of our ecosystem and the toxins being used in many cleaning products have various hazardous outcomes on our respiratory systems.

The following table provides some information about toxin-free cleaning products. You should also do your own research to see if there are any other options appropriate to your service.

Be aware that these cleaners may not kill the COVID-19 virus, so sanitising with an approved hospital grade sanitising solution would be needed where surfaces must be COVID free. This might mean cleaning using an environmentally safe method, then sanitising with hospital grade sanitiser. Unfortunately, this may reduce your ability to remain sustainable in your cleaning. It may also mean that you are introducing toxic substances into the environment. Content such as Methanol and 1-Propanol must be avoided.

Type of cleaner	Area for use	Recipe/direction
Spray cleaner	Benches and tables	➢ Mix 300ml pure liquid soap with 50ml spirits of orange. ➢ Top up with vinegar to make 1 litre.
Cream paste cleaner	Sinks and stubborn stains on benches and tables	➢ Mix 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.
Antiseptic cleaner	Toilets	➢ Mix 5ml of tea tree oil with 300ml pure liquid soap. Top up with vinegar to make 1 litre.
Vinegar and water	Bathroom, kitchen and laundry	➢ Scent vinegar with some lemon, orange or essential oil if you wish to reduce the smell.
Lemon juice	Areas that need bleaching	➢ Rub the lemon over the surface that needs to be sanitised, then rinse with water.
Lemon juice and bicarb soda	Bathroom, toilet	➢ Create a paste of lemon juice and bicarb soda. Apply to any stain. Allow to sit for several hours, then rinse with water. ➢ Sprinkle bicarb soda over a lemon that is cut in half and rub the surface with the lemon.
Bicarb soda	Bench tops, bathroom, toilet	➢ Sprinkle bicarb soda on a clean, damp sponge and scrub the surface. Rinse clean.

Developing a garden

A garden is pleasant to look at, smell and care for.

It can be as small as a window box or as large as the whole length of a fence. It might be built with raised beds or made from upcycled materials.

Some concepts children can learn in the garden include:

- the lifecycle of plants and insects
- where foods come from
- plant care
- what foods look like before they get to the plate
- food preparation
- the role of bees and other insects
- how the garden ecosystem works
- roles and responsibilities, such as who is in charge of watering and who needs to weed
- weeding or fertilising
- counting, measuring and comparing seeds and garden beds
- how long it takes for each plant to fruit or flower
- the names of plant species and companion planting.

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

- plan the space
- collect the items on an excursion or help write a shopping list or letter to a supplier
- place the items
- shovel, dig, rake and hoe
- set out the plants, seedlings or seeds
- mulch
- water plants
- stake plants
- remove insects
- harvest
- cook with herbs, fruit and vegetables.

Children with different levels of interest can all be involved at different times. A child who may not be excited by digging and sowing may love watering, weeding, harvesting or cooking. The passion that a child develops for one aspect may evolve into an interest in another

The following outlines some discussions and experiences you could provide.

Discussions	Experiences
➤ How do you care for plants? ➤ What do plants need to grow? ➤ Where do plants live? ➤ What do they need from people? ➤ How can you keep them safe? ➤ How do they provide oxygen? ➤ Which plants are native to the area and which are introduced?	➤ Grow a flower garden, a veggie patch or a herb patch. ➤ Create a lifecycle of plants in your garden. ➤ Develop a list of plants, including their proper names. ➤ Take photos of plants and develop an album. ➤ Draw pictures of plants ➤ Make posters to tell others about the garden. ➤ Develop a 'how to grow' guide. ➤ Create a garden safety poster. ➤ Explore how the garden becomes an ecosystem. ➤ Find out what exists in the garden ecosystem. ➤ Research native plant species. ➤ Visit a nursery. ➤ Find out about plants that attract bees, butterflies and native birds.

Be prepared to experience challenges. You may experience:

- bugs eating fruit and vegetables – be ready to share some or take time to remove bugs and place them in more appropriate spaces
- bees around flowering plants – be aware of children and adults with allergies. Rather than making this scary, discuss bee characteristics. They live in a family. They cannot see or hear well but can smell nectar as well as anxiety. They generally won't sting unless provoked
- plants that take a long time to harvest – vegetables take time to grow and results will not be seen for some time. Signs of growth can be exciting
- plants need water – this means that a watering system, hose or recycled water concept must be set up so the garden doesn't fail
- healthy soil attracts weeds – some common weeds are also foods or herbs and can be eaten. Others might feed chickens or be composted
- educators must be committed to maintaining a garden – a neglected garden is an eyesore and is taking up valuable space. Be sure you are ready for the commitment prior to setting up.

Growing and preparing food

Do some research and preparation before creating a garden.

To make your garden successful there are some steps to consider, as outlined in the following table.

Step	Considerations	Useful information
1. Decide on a space	➤ What spaces are available? ➤ What are the characteristics of the space? For example, does it have sunlight; will it be rained on? ➤ What kind of garden will it be? For example, raised, potted, small, large, indoor, outdoor or in a glasshouse?	➤ A vegetable garden will need: – full sun most of the day – plenty of water – good soil. ➤ A vegetable bed may need soil brought in from a garden centre.
2. Decide what to grow	➤ What will children eat or enjoy looking at? ➤ What will grow in the space you have identified? ➤ Which plants are dangerous and should be avoided?	➤ Be aware of allergies to foods, plants and pollen. ➤ Some plants are dangerous to eat or touch.
3. Set up your garden bed	➤ What do you need to build the garden? ➤ What type of soil needs to be brought in? ➤ Who can help?	➤ Pots and small garden beds may require potting mix. ➤ Larger garden beds may require composted soil. ➤ Vegetables are fussier about soil than native plants.
4. Plant	➤ Which plants will go where? ➤ Which plants need more sun? ➤ Which plants will grow taller than others? ➤ How far apart do plants need to be? ➤ Which plants need stakes to hold them up and support their growth?	➤ Taller plants should be placed where they will not shade smaller plants. ➤ Some plants need ground space to grow along (such as pumpkin and watermelon). ➤ Some plants need space to grow up (such as corn and peas).
5. Mulch	➤ What type of mulch works best? ➤ How close to plants do you put mulch?	➤ Choose mulch that will stay in the garden. Some mulch types blow out on a windy day. ➤ Some mulch materials burn plants if they are too close to their stems.

Step	Considerations	Useful information
6. Care for and water plants	➤ How much water do the plants need? ➤ How often do you need to water them? ➤ Which are weeds and which are plants? ➤ Which insects are healthy for the plant and which are damaging? ➤ What are the safest ways to remove insects that are damaging? ➤ What will you fertilise vegetables with?	➤ Raised beds and pots dry out faster than garden beds. ➤ When watering, make the soil wet to about 2cm deep. ➤ Rain is preferred over watering because it conserves water and contains nutrients for the plants. ➤ Teach children to garden without pesticides. Remove the damaging insects to a new home, or investigate natural insect repellents. ➤ Children can help use worm farm waste or compost to feed the vegetables.
7. Harvest	➤ When are vegetables ripe? ➤ How do you harvest them without damaging them? ➤ Will the plant continue to grow after harvest, or do you need to start the process again? ➤ Can you plant the same plant in the same place?	➤ Some plants grow, develop, are harvested and then die. You need to plant new seeds, seedlings or plants. ➤ Most vegetable gardens produce better outcomes if you rotate the crop. For example, if peas are grown on one side of the garden one season, move them to the other side next season.

There are many books, online articles and experienced gardeners that can help you get started with a garden project. The skills and knowledge of families and the community are valuable resources, and getting them involved serves many purposes.

Where possible:

- Plant native trees and shrubs that require little water.
- Use plants to encourage birds and other native wildlife into the garden.
- Use non-toxic pest control, such as planting mint or onions to discourage ants.

When children are in the garden, make sure that they:

- follow sun-smart procedures
- wear closed-toe shoes to protect their feet when digging and shovelling
- use tools that match their size and capability
- are supervised and wear gloves if they are using fertilisers or potting mix
- keep safe near water
- pack up equipment when not in use; hoses and tools are hazards when left lying around
- only eat plants and crops when adults agree it is safe
- are aware that some insects and plants are dangerous when handled
- wash hands after touching soil or fertilisers.

Example

Growing food

The children are discussing where food comes from when they are eating their salad. The discussion leads to the idea of making a vegetable patch in the yard.

Jayne, the educator, uses group time to discuss the idea with the children and to make a plan for their garden. The plan is also shared with their families and one family donates some wooden planter boxes. Together the children work out what they would need and what they would like to plant in the garden. They find some books on how to look after plants. The children make their own watering cans by upcycling plastic bottles.

Caring for animals

Animals and insects are topics of interest to children.

They provide entertainment, learning and even emotional support. Animals and insects can be discussed if they are found in the garden, are kept as a pet at home or in the service, or if they have captured a child's interest.

Some ways you can expand children's understanding of animals and insects are provided in the following table.

Discussions	Experiences
➤ How do you care for animals and insects? ➤ Where do animals and insects live? ➤ What do animals and insects need from people? ➤ How can you keep animals and insects safe? ➤ What do animals and insects eat? ➤ How can you work out how the animal feels? ➤ What animals: – are kept as domestic pets? – are kept on a farm? – live in a zoo? – can fly? – live in the sea? – live in different parts of the world? – are extinct?	➤ Research animal lifecycles and create a poster. ➤ Build an animal home. ➤ Watch how animals live. ➤ Plan an excursion to a zoo, museum or aquarium to see different types of animals. ➤ Investigate what animals eat. ➤ Invite an animal farm, pet visit or a responsible pet ownership program to the service. ➤ Share knowledge of family members, educators and experts, such as veterinarians and zoologists. ➤ Introduce reference books, online searches, pictures and posters.

Pet ownership

When shown how to be a reliable and capable pet owner, children can learn compassion and responsibility through caring for animals.

The needs of a pet must always be maintained, and children need to show respect for the animal at all times. Hygiene and safety factors are also a high priority.

Animals can be used to introduce a range of concepts.

If you decide to introduce a pet to the service, children need to be taught:

- how to handle the animal properly and safely
- what the animal eats and drinks
- what hygiene practices to follow
- when the animal is showing signs of fear or defence
- what to do if they are scared of the animal
- how long you can keep the pet before its lifespan is reduced (for example, insects will die if kept too long)
- how to groom and care for the animal
- when to visit the vet.

Waste management

Waste management relates to both household and industrial garbage, and involves sorting rubbish and taking it to a suitable location where it is properly disposed of.

The main purpose of waste management is to control pollution and poisons, and to reduce waste through recycling.


Encourage children to sort different types of waste, including compost and recycling.

Waste has been a major environmental issue for many years. The responsible disposal of waste is a daily concern and one that has created an ethical dilemma. If waste is dealt with appropriately you can substantially reduce your carbon footprint.

However, disposing of waste appropriately can be inconvenient; for example:

- sorting different types of waste into different bins takes more time than putting it all in the same bin
- putting aside organic waste for a worm farm or compost heap can be messy
- it is easier to buy new storage containers than to store glass jars, cardboard boxes or tins for when needed.

Convenience is the main reason for many unsustainable practices. Choosing between sustainable practices and convenience is an ethical dilemma. Remember to weigh up the pros and cons of any option before embarking on new practices.

The three Rs

The key practices related to waste reduction are the three Rs:

- ***Reduce***
- ***Reuse***
- ***Recycle***

The following table outlines how you might use the three Rs to involve children in sustainability activities.

Strategy	What you can do	What children can do
Reduce	➤ Look at how products are packaged. Most of this packaging is of no use when you open the product. ➤ Choose products that have less packaging. ➤ Only buy what you need. ➤ Use handkerchiefs rather than tissues. ➤ Use food only for eating. ➤ Print double-sided and communicate electronically where possible. ➤ Use material bags rather than plastic. ➤ Turn taps off. ➤ Use dishwashers and washing machines when full. ➤ Select water saving equipment such as washing machines, hoses, dishwashers.	➤ Discuss packaging and consider how much is necessary. ➤ Identify which purchases would have the least packaging. ➤ Develop shopping lists and talk about what you really need to buy. ➤ Measure how much water is used for different tasks and over a day or week.
Reuse	➤ Take reusable bags shopping and reuse plastic bags. ➤ Reuse packaging that is otherwise waste, such as empty containers. ➤ Wash and reuse plastic cutlery. ➤ Repair broken items if possible, or upcycle them for art activities like threading and collage. ➤ Send items you no longer use to a charity shop. ➤ Access items you need from charity shops. ➤ Poor water from taps onto gardens.	➤ Decide which types of packaging can be reused. ➤ Decorate reusable shopping bags. ➤ Calculate how many reusable shopping bags are needed compared to plastic bags. ➤ Help to repair items. ➤ Choose items to donate to a charity shop. ➤ Organise a toy swap. ➤ Make a list of things to buy at a charity shop. ➤ Visit a charity shop to look for items. ➤ Come up with ideas for upcycling. ➤ Water gardens and plants with rainwater or grey water.

Strategy	What you can do	What children can do
Recycle	➤ Choose products with packaging made from recycled materials. ➤ Use cardboard or newspaper in a worm farm, compost heap or as mulch on the garden. ➤ Use kitchen scraps and garden waste in compost bins or worm farms. ➤ Separate rubbish from recycling.	➤ Research how composting and worm farms work. ➤ Develop and care for a recycling system, worm farm or compost heap. ➤ Help sort packaging material into recyclable and non-recyclable items. ➤ Work out the best place for each material to go (rubbish bin, garden, compost bin, worm farm or recycling bin). ➤ Learn about the different recycling symbols and what they mean. ➤ Create a water recycling system. ➤ Investigate how water is collected, where it goes and how it is used. ➤ Find out where paper comes from and how it is recycled.

Example

Recycling experience

Tanisha listened to a group of children who were discussing rubbish trucks and why there are different ones. To follow this up, Tanisha read the children a book on recycling and garbage collection. She asked the children what they could do in their room to recycle items. They decided to set up recycling bins and make posters with pictures of what can go in each bin.

To support this, Tanisha set up an experience with a book and posters on recycling. There was also a recycling sorting game where children identified materials and how to manage them.

The children discussed ways to reuse items such as boxes for craft, and paper to be used for drawing.

Hazardous waste

There are many types of waste, some of which are hazardous.

The following table lists some different categories of waste and provides examples of each.

Liquid	➤ Leftover paint, glue or paste ➤ Water from washing materials and toys ➤ Dishwashing detergent
Solid	➤ Used paper ➤ Unwanted art and craft materials ➤ Faeces from nappies
Toxins	➤ Chemicals used for cleaning that are flushed or put down drains ➤ Chemicals used for soaking nappies ➤ Expired medicines ➤ Light bulbs ➤ Chemical fertilisers ➤ Some sanitisers
Organic	➤ Kitchen scraps ➤ Rotten vegetables or fruit ➤ Eggshells ➤ Weeds
Recyclable	➤ Paper ➤ Glass ➤ Metal ➤ Plastic

Energy consumption

Actions can be taken to reduce the amount of energy used.

Renewable energy such as solar power and wind power reduces the amount of non-renewable energy used. The following table shows some further actions and ideas for reducing energy consumption.

Energy use	Sustainable actions	Educational ideas
Lighting	➤ Keep windows uncovered to make maximum use of natural light. ➤ Use an automatic switch or turn off lights when leaving a room.	➤ Investigate where natural and artificial light comes from.
Heating	➤ Dress warmly on cold days. ➤ Have a maximum temperature limit on heaters.	➤ Find out how the body stays warm. ➤ Talk about different heat sources.
Cooling	➤ Use shade to protect buildings and windows from heat. ➤ Use natural ventilation wherever possible. ➤ Have a minimum temperature on coolers and air conditioners. ➤ Wear breathable clothing on warm days.	➤ Talk about how to keep the body cool. ➤ Compare the energy usage of cooling appliances.

Energy use	Sustainable actions	Educational ideas
Transport	➤ Purchase food and other goods from local suppliers. ➤ Carpool to work. ➤ Walk, ride a bike or catch public transport instead of driving.	➤ Investigate where petrol comes from. ➤ Learn how petrol is used to fuel a car. ➤ Explore different fuels. ➤ Discuss different transport options.
Cleaning	➤ Dry clothes on the washing line. ➤ Choose 5-star energy rated appliances.	➤ Time how long it takes to dry items outdoors during different temperature days. ➤ Wash dolls clothing or blankets by hand.

It can be surprising to find out how many things used every day rely on energy such as electricity and gas. Organise a voluntary power outage to see how often the group uses items that need power. If this isn't possible, you could label items to show their carbon footprint or remind children when they are using power.

Practice Task 5

1. Draw a line to match each term to its definition.

* Reuse	* Choose items that have little or no packaging.
* Reduce	* Avoid throwing things away and use the things that you have for other purposes.
* Recycle	* Sort waste into different categories so it can be processed into new products.

2. Number each step from 1 to 7 in the order you would follow to develop and care for a garden as a curriculum strategy for promoting environmental responsibility.

- ☐ Plant the chosen item.
- ☐ Harvest the produce.
- ☐ Plan the space.
- ☐ Set up the garden bed.
- ☐ Decide what to grow.
- ☐ Mulch and fertilise the garden.
- ☐ Care for and feed the plants.

3. List three things that children can learn from discussions about caring for animals.

. .....

. .....

. .....

4. Which of the following statements are correct? Select yes or no for each one.

a.	Bacteria is part of our ecosystem. Toxins used in cleaning products damage this bacteria and have hazardous outcomes on our respiratory systems.	* Yes	* No
b.	Recycling and upcycling mean the same thing.	* Yes	* No
c.	Food waste can be used in worm farms or compost heaps, or donated for use as animal feed.	* Yes	* No
d.	Reducing waste, water and energy is an ethical dilemma due to conveniences people do not want to give up.	* Yes	* No

Summary

- You can set an example and be a source of learning if you maximise the use of natural materials in the environment. The learning environment should include a range of items from nature.
- The best opportunities to discuss the environment arise when children ask questions or when environmentally responsible practices are being used.
- Variety in learning opportunities is the key to children's engagement and participation. Look for age-appropriate materials that promote positive messages of change.
- As an educator, you must be a good model and provide information about the environment and materials for activities
- Listen to children's thoughts and ideas about environmental responsibility. This will help them develop a sense of empowerment.
- Ongoing discussion about the environment is important for a child's development of life skills.
- Children need to know about:
  - growing and preparing food
  - waste reduction and recycling
  - caring for animals.

Learning Checkpoint 2
Environmentally responsible curriculum

Part A

1. Draw a line to match each innovative strategy for promoting environmental responsibility on the left to the learning opportunity it creates on the right.

* Group discussion, learning and planning	* Provides an opportunity for the community to learn about how recycling is incorporated at the service and creates ideas for improvement.
* Create a recycling station	* Provides insight and understanding of the recycling process and involves the community.
* Tour of recycling centre or inviting a guest speaker	* Provides an opportunity for children to exchange ideas and knowledge and become involved in strategies and plans.
* Providing activities, books and posters on recycling	* Provides an opportunity for educators to model sustainable practices and for children to implement these in the service.
* Tour of the service	* Provides opportunities for discussion and development of eco-literacy by providing additional information that children can learn from.

2. Some services may wish to use chemical bug sprays to control insects in vegetable gardens when children are not present. Which of the following are correct about this statement? Select all that apply.

- ☐ Chemicals must be used at times if a healthy garden is to survive and develop foods that can be harvested and used for food preparation.
- ☐ Bees and other insects can be harmed by toxins. Environmentally responsible practices mean that we should avoid any toxic sprays to preserve the ecosystem.
- ☐ Chemicals may be touched or ingested by children even though they have not been present during application. This could cause health issues.
- ☐ It is an ethical dilemma as without bug spray, vegetables may be eaten by insects, but with it vegetables may be covered in chemicals.
- ☐ When provided with information as part of the curriculum, children can be encouraged to exchange thoughts and ideas about the vegetables and help to decide on actions to care for them.

3. Identify one topic about Aboriginal and/or Torres Strait Islander sustainability practices that you could discuss with children?

Part B

Use the images below to answer the questions that follow.

Image 1

Image 2

Image 3

Image 4

Image 5

Image 6

1. Which image shows eco-friendly material usage and recycling?

2. Which image demonstrates an action that conserves energy?

3. Which image shows an action that conserves water and benefits the natural environment?

4. Provide an example of how waste could be reduced in the following images.

   a. Image 3

   b. Image 6

5. Which of the following are correct about images 3 and 4? Select true or false for each one.

a. Reusable shopping bags reduce waste by eliminating unnecessary packaging.	* Yes	* No
b. When services attempt to reduce unnecessary packaging, this may cause an ethical dilemma.	* Yes	* No
c. Bags used for food packaging must be discarded.	* Yes	* No

Topic 3

In this topic you will learn about:

- **3A** Evaluation and review
- **3B** Discussing sustainability with stakeholders
- **3C** Reflecting to identify improvements

Identifying changes and improvements

Before making a commitment to a new practice, you must determine that the change is realistic.

This can be achieved through analysis and evaluation. Meaningful reflection occurs when you thoughtfully review your practices and develop ideas for improvement. Once you have done this, you can start to prepare for change by weighing up the pros and cons, and possible barriers to change.

Change is a complex operation; it requires positive leadership and creating a vision that motivates people to work towards identifying and reaching goals.

Best-practice results will be achieved if you involve others in brainstorming about possible changes. Look at all aspects of the service's delivery and environment, for changes that will enhance environmental sustainability and increase the children's connection with nature.

3A Evaluation and review

Analysis or evaluation informs reflection and this helps you to use the information you have gathered to identify improvements to practices.

Service evaluation occurs through a regular assessment and ratings process. Self-assessment includes reviewing your current practice, identifying best practice and setting goals for improvement. Most services have some environmentally responsible work practices already in place which reflect its priorities. When you measure your service against best practice, it is called benchmarking.

An environmental policy outlines how to involve others in sustainability.

Environmental responsibility guidelines

Most services have a policy that identifies ways to increase children's connection with nature, reduce waste, conserve power and encourage recycling.

These measures must be continually monitored and evaluated so that environmental responsibility is embedded across all areas of the service.

Standards, policies, procedures and philosophies that relate to environmental responsibility should also link with the following areas:

- educational program and practice
- health and safety
- physical environment
- relationships with children
- collaborative partnerships with families and the community.

Read all guidelines and conduct a walk-through audit to determine if they are being implemented in the service. Guidelines are only useful if they are being followed.

Standards, policies, procedures, philosophy and practice all link to each other. A policy often relates to one or more procedures, which in turn relate to a number of different practices. These are all represented through a philosophy, as shown in the following table.

Philosophy	States what you value; for example, the natural environment.
Policy	States your goals and aims; for example, to foster an appreciation of the natural environment.
Procedures	Describes the way things are done; for example, to provide natural flora in the environment we will plant seeds, and use rocks and logs for outdoor play.
Practices	Describes the strategies for doing so; for example, to support the children's learning of the natural world we will encourage the planting of vegetables and plants.

Example

Interrelation of policy, procedures and practices

The following table demonstrates how all aspects interrelate in relation to one of the environmental policies in a service.

Program: The natural environment		
Policy	**Procedures**	**Practices**
Develop and implement programs that nurture children's appreciation of the natural environment.	➤ Provide an environment that supports children's learning and participation that has a variety of flora and fauna, and a balance of aesthetics that provide for children's sensory awareness and appreciation of natural materials.	➤ The following will be provided in the service: – native plants in the garden – different kinds of bark and leaves – herb garden – natural materials for use in play – smooth stones – rounded boulders for stepping stones, walls or places to sit.
	➤ Ensure natural play materials and resources that have been borrowed from the environment are disposed of appropriately and thoughtfully.	➤ Children have an understanding of the delicate ecological balance in the environment. ➤ Children return borrowed natural materials to their place of origin. ➤ Water used in water play and art is reused to water the garden.

Reviewing philosophy

A philosophy is a statement of values and beliefs.

As stated in NQS Element 7.1.1, the values expressed in the philosophy must be reflected in policies, procedures and practices. Policies and procedures provide the framework for translating the philosophy into practice.

A service's values and beliefs about environmental responsibility, as expressed in the service philosophy, may say something like:

> 'The service values and respects the natural environment and recognises its responsibility to develop, implement and model environmentally sustainable practices that foster in children an ongoing appreciation and commitment to care for the world in which they live.'

If you begin to introduce a particular program, such as recycling or gardening, this would then be introduced into your philosophy.

Reviewing policies and procedures

Philosophies, policies and procedures should identify environmentally responsible practices.

To ensure they promote sustainable work practices and are kept up to date, they must be reviewed regularly. When you plan to make changes, such as when developing an environmental responsibility plan, your policies, procedures and philosophy may also need to reflect any changes.

Philosophies, policies and procedures undergo a regular review, usually as part of a schedule. The aim of a scheduled review is to make sure all best-practice initiatives are investigated and adopted. The review identifies whether existing procedures and policies complement the practices in the service. It may also identify and address areas for potential change.

Process for reviewing environmental responsibility policies and procedures
1. Identify current environmentally sustainable practices. These practices can be grouped into different categories, such as waste or recycling.
2. List work practices to be checked against the existing policies and procedures. This is a quick and easy way to find areas that are already covered, areas that interrelate, and areas in which new policies or procedures need to be developed.
3. Fill any gaps in the policies and procedures relating to existing work practices. The policies and procedures should appropriately reflect current practices.

Example

Environmental responsibility

Most services have a policy relating to environmental responsibility, which identifies how they plan to reduce waste, conserve power and encourage recycling. The following is an example.

Environmental responsibility policy

The service aims to develop and implement environmentally sound practices and programs that recognise our responsibility to protect and preserve the environment. This includes fostering in children an ongoing commitment to caring for the world in which they live.

Code of practice

The development and implementation of an environmentally sound code of practice underpinned by the principles of conservation and environment protection was a charter of the Environmental Work Team. The following code of practice has been developed to this end. This includes consideration of:

- the healthy growth and wellbeing of both the children and adults
- the protection and care of the environment
- consistency and ongoing reinforcement of environmentally responsible behaviours and attitudes.

We ask all families, staff, students and visitors to recognise and practise the following at all given opportunities.

Nature

- Take care to ensure plants and animals are not harmed when playing outdoors.
- Plant predominantly native trees and shrubs.
- Use the garden and outdoor environment as a learning environment and a natural resource.
- Involve children in all activities related to gardening, recycling and caring for animals.
- Ensure that all things borrowed from the garden for play purposes are replaced in the garden after use.

Waste

- Provide food scraps to families or staff who wish to take them home for animals.
- Use non-disposable utensils at functions.
- Provide bins for recycling indoors and outdoors, and arrange for collection of waste, paper, plastics, aluminium, steel and glass.
- Avoid the use of throw-away plastic wrappings by using containers with lids and tea towels.
- Print double-sided or use the reverse side for scrap paper or writing notes.
- Recycle all envelopes and avoid using envelopes whenever possible.
- Give due consideration to the potential of any item in regard to repair, reuse or recycling before disposing of it.

Materials and equipment

- Use recycled paper for painting, drawing, collage and office notes.
- Provide handkerchiefs rather than tissues and hand towels rather than disposable paper towels.
- Use unbleached toilet paper.
- Buy products in bulk or recyclable containers and avoid products with excess packaging.
- Use only recycled materials for all art activities, such as collage and threading.
- Avoid overuse of plastic and manufactured play materials and use natural or recycled alternatives whenever possible.

Energy

- Conserve energy by using natural lights as much as possible and by turning off unnecessary lights when leaving rooms.
- Use natural gas rather than electricity for heating, cooking and hot water.

Water

- Water gardens only in the early morning or late afternoon.
- Provide water containers at the sandpit rather than a running hose.
- Provide half-flush toilets.
- Use the dishwasher and washing machine only when it is environmentally responsible to do so.

Cleaning and maintenance

- Provide and use environmentally sound cleaning materials, such as bicarb soda, vinegar and spirits of orange where appropriate.
- Sweep rather than hose down paths.
- Soak paintbrushes and other activity utensils before washing them, and discourage water wastage by not running taps for extended periods.
- Purchase paints in powder rather than liquid form.

In general

- Be alert to potential learning opportunities as they arise and extend these experiences by providing books and other resources whenever appropriate.
- Encourage family involvement in environmentally responsible practices by collecting waste materials for art activities.
- At all times be a good model for children by modelling attitudes, values and behaviours that demonstrate respect and care for ourselves, each other and the environment.

Reviewing practices

Evaluate the practices of the service against your current goals and identify whether there are any areas that need to be changed.

By looking at current practices, you can see how policies and procedures have been implemented and whether they need further changes to produce better outcomes. The following table shows how a service could assess its sustainability practices.

Policy	Procedure	Practices	Yes/No
Develop and implement programs that nurture children's appreciation of the natural environment.	Provide an environment that has a variety of flora and fauna, provides for the children's sensory awareness and promotes the appreciation of natural materials.	Plant native plants in the garden.	Yes
		Plant a variety of native grasses.	Yes
		Use natural materials wherever possible; for example, wooden playground equipment or pebble paths.	No, could be improved

Example

Environmental responsibility review process

A service is conducting its annual review into the policies and procedures that relate to environmental responsibility.

The following table is developed, which shows the practices the service currently implements and the policies and procedures that these practices represent.

Resource	Policy	Procedure	Practices
Lighting and ventilation	Reducing the organisation's carbon footprint	Use natural sources of energy	➢ Use skylights. ➢ Have north-facing windows that let in winter sun. ➢ Use shade to protect the building and windows from heat. ➢ Use natural ventilation whenever possible.
Transport	Reducing the organisation's carbon footprint	No procedure	➢ Purchase goods from local suppliers. ➢ Use energy-efficient cars.
Waste	No policy	Reduce the amount of resources used	➢ Use non-disposable plates and cutlery ➢ Reuse containers. ➢ Purchase in bulk to avoid excessive packaging.
Recycling	No policy	No procedure	➢ Reuse paper for art activities. ➢ Reuse clean waste materials. ➢ Recycle waste.

The review identified that there was:

- no procedure for transport
- no policy for waste management
- no policy or procedure for recycling.

The service addressed these gaps and developed new policies and procedures, which are represented in the following table.

Resource	Policy	Procedure	Practices
Lighting and ventilation	Reducing the organisation's carbon footprint	Use natural sources of energy	• Use skylights. • Have north-facing windows that let in winter sun. • Use shade to protect the building and windows from heat. • Use natural ventilation whenever possible.
Transport	Update policy with new procedure: Reducing the organisation's carbon footprint	Reduce petrol emissions	• Purchase goods from local suppliers. • Use energy-efficient cars.
Waste	New policy: Waste reduction policy	Reduce the amount of resources used	• Use non-disposable plates and cutlery • Reuse containers. • Purchase in bulk to avoid excessive packaging.
Recycling	New policy: Waste reduction policy	New procedure: Reuse materials where possible	• Reuse paper for art activities. • Reuse clean waste materials. • Recycle waste.

Quantitative and qualitative data

There are two main types of data that can be reflected on and used to provide consistent and reliable details.

These are outlined in the following table.

Quantitative evaluation
Quantitative data uses specific tools or measurements. The results can be measured or counted, and any other people assessing the same situation will obtain the same results. Examples of quantitative evaluations are: › calculating the usage of resources by looking at bills or invoices › auditing accounts, suppliers or waste management systems › recording the number of community or parent meetings › recording the number of people who attend meetings or events › recording the number of outings › completing a carbon footprint calculation.

Qualitative evaluation
Qualitative evaluation is more subjective. This type of evaluation is based on the senses and might look at what, how or why something happened. Examples of qualitative evaluations can include records of: › learning goals › observations › issues raised in a discussion › feedback from interviews, questionnaires or incidental conversations › opinions and comments › people's willingness and ability to participate in a practice or procedure.

When designing an evaluation, try to use both quantitative and qualitative methods. Different types of evaluations are suitable for different situations. They can be used together to create a full picture of a situation.

The results of quantitative evaluations can be quickly and clearly communicated. Pictorial representations, such as graphs, are particularly useful as they are easy to read. On the other hand, qualitative reporting is more personal and sometimes more in-depth. As the name suggests, they can be used to record and communicate the qualities of environmental responsibility.

Example

Quantitative and qualitative data

Effie, an educator, is analysing some recent spending. She finds the following results, which provide useful information.

Quantitative results

- The most recent water bill was $1,521
- The water bill for the same period last year was: $994
- There has been a 2% rise in rates, which added $19.98 to the bill.
- The usage of water from last year to this year has increased by one third.
- In the last year our utilisation (number of children attending the service) has increased by 20 children. This would increase the amount of water used for toilets, washing, cleaning, drinking, etc.

Qualitative results

- A garden has been added to the yard. Children are encouraged to water the garden using a hose.
- Children are showing enthusiasm for watering the garden and in some cases are giving the plants too much water.

Gathering data

There are many different ways to collect data for analysis and reflection.

Some examples are outlined in the following table.

Area to review	Quantitative data	Qualitative data
Utilities, including water, gas and power usage	➤ Invoices, bills and usage levels	➤ Reasons why utility usage is, or might be, high or low
Waste	➤ Amount of paper and other materials or resources being used ➤ Amounts recycled compared to amounts of rubbish	➤ Actions relating to waste sorting ➤ Access to recycling bins ➤ Types of activities the resources are being used for ➤ Packaging issues; for example, if bulk supplies are used or available or if refillable containers are being used

Area to review	Quantitative data	Qualitative data
Educational resources	➤ Number of resources ➤ Audit of resources	➤ If resources are age-appropriate ➤ Level of natural or recycled resources

SWOT analysis

A SWOT analysis lists the strengths, weaknesses, opportunities and threats of a situation, and helps you to evaluate what action to take next.

A SWOT analysis is a strategic planning system that can be used for a system-wide review, or as a tool to look at specific areas. A SWOT analysis helps you see where you are now, where you want to be, and plan how to get there.

A SWOT analysis is a helpful way to determine what action to take.

Strengths and weaknesses are internal to the business. In relation to environmental practice, strengths and weaknesses may refer to:

- capabilities
- resources
- management
- processes
- innovation
- location
- reliability.

Opportunities and threats are external to the business, and may refer to:

- industry developments/trends
- other educators' practice/pedagogy
- contacts/partners
- demand
- new technology
- new staff
- lifestyle trends
- finance
- legislation.

A SWOT analysis can be used in the following way to evaluate environmental responsibility.

Strengths	Weaknesses
Aspects of sustainability already in place	Areas where improvement has not been considered or barriers prevent improvement
Opportunities	**Threats**
Areas of potential change	Actions or things that threaten sustainability or damage the environment

Example

SWOT analysis

Travis is an educational leader who completes the following SWOT analysis based on qualitative and quantitative data he has collected about educational resources.

Strengths	Weaknesses
➤ Indoor experiences use natural and recycled materials. ➤ Educators replace man-made items with natural materials. ➤ Educators involve children in identifying how they can use natural materials in their experiences.	➤ Funding is low. ➤ Families are not involved in environmental responsibility. ➤ Outdoor space lacks natural materials. ➤ Management committee does not agree that the natural materials are a priority. They believe colourful, man-made materials are cheaper and more exciting for children.
Opportunities	**Threats**
➤ A local charity shop has recently opened. ➤ Educators can ask families and the community for donations of recycled materials.	➤ Health and safety legislation may limit the types of natural materials that can be used – need to ensure all items are safe and sanitised.

Information currency

To identify if philosophy, policies, procedures and practices are environmentally responsible, your knowledge must be kept up to date through research.

There is little point updating a policy with information that is out of date or gives incorrect details. Gaps in old information may provide details that lead others toward inappropriate practice or non-compliance. Try to use information that is from an Australian source where possible. Choose the details that were most recently published.

Research allows you to gain up-to-date information about:

- responsibilities
- laws, regulations and standards
- innovations
- changed terms and references
- new practices
- best practice.

To maintain information currency, use the following guidelines:

- Check that the organisation is still operating and can provide the right type of information.
- Review any information that is more than 12 months old.
- Dispose of old information.
- Read materials fully before using or recommending them.

Reputable sources

Reputable sources are ones that you can trust.

They are sources of information that have come from recognised and respected bodies or individuals with high standing. Textbooks and study materials are useful, as are fact sheets from specialists. If you use information from the internet, ensure you use a site that is government-based or linked to a reputable source.

Reputable sites may be recognised in the following ways.

Type of website	Site address includes	Example
Government organisations	.gov	epa.vic.gov.au
Organisational sites and foundations	.org	coolaustralia.org
Educational sites, including universities and colleges	.edu	sustainabilityinschools.edu.au

Commercial sites (.com) should only be trusted if you are already familiar with the topic and are building on or seeking further information. Commercial sites may also be reputable if they are linked to a reputable site, such as a government website.

Practice Task 6

1. Draw a line to match each aspect that demonstrates a service's environmental responsibility to its example.

* Policy	* A statement that meets NQS Element 7.1.1 and explains the service's commitment to environmentally sound practices and programs.
* Philosophy	* Provides an outline of environmentally responsible expectations.
* Practices	* Outlines steps toward sustainable actions.
* Procedure	* Outlines actions to implement environmentally responsible commitments.

2. Which of the following statements about environmentally responsible guidelines are correct? Select yes or no for each one.

a. If a policy has been researched in the past it will usually be correct. At review the focus should be on how the policy can be improved, rather than if past research meets requirements.	* Yes	* No
b. Contemporary practices are usually best practice and these should be added to guidelines.	* Yes	* No
c. Models of best practice that can be used to inform policy review can be found on websites. Ensure websites are reputable and kept up to date.	* Yes	* No

3. Draw a line to match each term about evaluating practices to its definition.

* Qualitative evaluation	* The results can be measured or counted, and any other people assessing the situation will obtain the same results.
* Quantitative data	* This type of evaluation is subjective and might look at what, how or why something happened.
* Best practice	* Helps you see where you are now, where you want to be, and plan how to get there.
* SWOT analysis	* Occurs through a regular review of your current practice, identifying best practice and setting goals for improvement.
* Service self-assessment	* Also called benchmarking, it involves investigating the most appropriate, innovative and up-to-date options.

3B Discussing sustainability with stakeholders

Extend children's learning by involving families, the community and others in policy, procedure and philosophy review.

This helps to show the importance of environmental responsibility and means that everyone is learning and sharing.

A stakeholder is anybody who can affect or be affected by a potential change. They can either be internal or external.

Involve others in policy review.

Your stakeholders may include:

- children
- educators
- cleaners
- families
- parent or management committees
- community members or organisations
- suppliers.

Consultation can help all stakeholders to present their ideas, brainstorm new ideas or begin to implement a change. It will encourage participation and allow people to feel involved.

When you involve stakeholders through a process of consultation and democratic decision-making, you promote a sense of ownership and empowerment, which can help to reduce resistance. For example, families and staff may feel more committed to change if you allow them to think of environmentally responsible alternatives they would like to see implemented in the service.

Consulting with families and the community

Families and the wider community are an important source of knowledge, skills and values.

Sharing information and ideas about environmental responsibility is the best way to engage their attention and get them involved. The following outlines ways you can involve different people in consultation about environmental sustainability.

Families	➤ Participating in service activities, events or forums relating to conservation, sustainability and maintaining a healthy environment ➤ Extending practices children have learnt about into the home; for example: – turning off taps when brushing their teeth – having shorter showers or using the bath – turning off lights when leaving a room – using environmentally friendly cleaning products – putting on a jumper instead of turning on the heater
Community members and organisations	➤ Providing expertise ➤ Providing learning resources ➤ Visiting as a guest speaker ➤ Allowing the children to visit their facilities
Suppliers	➤ Sourcing or donating sustainable materials ➤ Sponsoring a program ➤ Providing expertise

Consultation methods

To start a consultation, use a method suited to the skills, roles and ages of various stakeholders.

The following table outlines consultation methods for different stakeholders.

Stakeholder	Consultation method
Staff	➤ Meetings ➤ Information sessions ➤ Professional development ➤ Focus groups ➤ Social media ➤ Seminars and conferences
Families and community organisations	➤ Information nights ➤ Workshops ➤ Newsletters ➤ Posters ➤ Articles in the local paper ➤ Noticeboards ➤ Social media
Children	➤ Problem-solving discussions ➤ Drawings ➤ Stories ➤ Videos ➤ Photos

Engaging others

Talk to people and do some research to find out the skills and knowledge of staff members, families and community members.

Where possible, promote the program through personal contact and make personal invitations to people who may be able to contribute. If you are inviting others to participate in discussions and feedback, make sure this is not a token gesture and that you take contributions seriously. Token efforts of inclusion will soon be seen as a waste of families' valuable time and participation is likely to decline.

Some strategies for engaging staff members, families and community members are outlined in the following table.

Activity	Suggestions for including others
Being involved in policy and philosophy development, feedback and problem-solving	➤ Provide surveys or suggestion boxes to gather feedback. ➤ Ask others to contribute to a mural that represents what they want the service to look like or value. ➤ Ask for reflections on what you are implementing. ➤ Ask for ideas as part of problem-solving, such as suggestions for reducing waste or energy consumption. ➤ Hold discussions about the sustainability program.
Sharing knowledge	➤ Invite others to speak at meetings, run workshops or host discussion groups. ➤ Contact parents and community members who have specialty knowledge or who implement environmentally responsible procedures at home.
Taking ideas home	➤ Provide take-home resources, such as books and games. ➤ Provide links to online activity sites, such as: aspirelr.link/ollies-world. ➤ Write a newsletter. ➤ Create and share an environmental audit for the home or office.
Contributing to the service	➤ Ask for donations of resources or goods. ➤ Ask for recommendations of local organisations and environmental excursion ideas. ➤ Request volunteers for a working bee. ➤ Hold activities for recognised events, such as Clean Up Australia Day.

Maximising involvement

Aim to get everyone associated with the service on board and working towards environmental responsibility.

Ongoing, positive and respectful education and promotion is essential for improvement to be successfully adopted and implemented.

Some suggestions for maintaining stakeholders' involvement in decisions are to:

- hold regular meetings
- create a sub-committee
- include a regular article in a newsletter or email
- implement an environmental responsibility issues forum
- display information about new ideas for stakeholders to comment on.

To maximise the likelihood of involvement, provide detailed information about what you are planning and what you expect from others. Tell stakeholders:

- what the plan is
- why it is beneficial
- what preparation is required
- what resources and materials are needed
- how it will be implemented
- how you plan to involve the children.

Presenting this information in a simple, clear way will help to organise your thoughts and lead to a more positive response from staff members, families and community members.

Example

Discussing change with families

Cassandra, an educator, organises an online meeting in the evening. She plans, with a guest speaker, to raise the issue of reducing carbon emissions at the service.

She advertises it with the following notice.

Cutting your energy bills:

A talk by Bernie Jones from the EPA

Cassandra has chosen the topic and speaker to spark interest and encourage people to attend.

After a brief presentation and an opportunity to ask questions, Cassandra explains that the service is undertaking a program to reduce its carbon footprint.

Everyone is divided into breakout groups to brainstorm how they might use the information provided and how they could become involved in supporting the service to reduce its carbon footprint. The results are shared and they devise a plan to get started.

Consulting with children

Children are the focus of all curriculum plans and the environment. Therefore, they should be consulted about the environmental responsibility program.

Children are great thinkers and can bring a range of experiences and knowledge from their home and community. By consulting with children about sustainability practices, you are validating their skills, increasing their awareness and enhancing their positive connection with nature.

When you ask for children's opinions, you are demonstrating trust and helping them to feel they have some ownership and belonging over the service's practices.

Ways you might consult with children include:

- sharing information in age-appropriate ways
- engaging children through presentations and displays
- providing hands-on activities and materials for exploration
- developing visual cues or records for them to share and contribute to
- providing a choice to participate (not all children will want to participate in a full consultation or project)
- providing face-to-face discussion and question time
- allowing them to complete written questionnaires, surveys, graffiti sheets and feedback forms
- engaging children through art, storytelling, drama and interactive activities
- using photos and videos
- including child representation on advisory groups or focus groups.

Example

Discussing change with children

Darcy, an educator, has organised a series of discussions to engage children in environmental responsibility. These discussions will be a continuous process, responsive to the circumstances, and will involve group and individual discussions. The discussions relate to the recently adopted policy of conserving water resources. Children are encouraged to turn taps off as soon as they are finished with the water and not leave them running any longer than necessary.

Darcy's plan for the discussions is based on these questions:

- Where does water come from?
- What do we use water for?
- What if we had no water?
- What can you do to make sure we don't waste water?
- What will happen if we remember to turn off taps and only use what we need?
- How can we help each other to save water?

Facilitating a change process

There are a range of methods that can be used to facilitate a change process.

These methods might help all stakeholders to present their ideas, brainstorm new ideas or begin to implement a change. They will encourage participation and allow people to feel involved.

Some ideas include:

- providing sustainability education
- visiting other services to see their programs and gather ideas
- forming project teams involving concerned people eager to implement change
- consulting with parents or community members to participate as experts
- having demonstrations or talks
- conducting research to develop reports
- adopting a trial period for proposed changes
- brainstorming changes
- identifying and discussing advantages and disadvantages of change
- holding question and answer sessions
- holding group meetings to provide opportunities for the free expression of concerns and a range of views from parents, staff and the wider community
- negotiating a consensus
- collective problem-solving
- providing flexibility and a willingness to adjust strategies.

Practice Task 7

1. Which of the following statements are correct about consulting with others about environmentally responsible policies, procedures and practices? Select yes or no for each one.

a.	Stakeholders are people that can affect or be affected by potential change, such as children, families and staff.	* Yes	* No
b.	Information should only be shared through written communication so there is evidence.	* Yes	* No
c.	Families will not know enough about sustainability and therefore will have nothing useful to contribute to discussions.	* Yes	* No
d.	To maximise involvement, provide detailed information and explain what you expect from people.	* Yes	* No

e. There is no need to consult with children as they will not understand the concepts of sustainability. * Yes * No

f. There are many topics about the environment that we can discuss and teach children. * Yes * No

2. List five strategies that a service could use to encourage participation of adults and children in environmentally responsible practices.

3C Reflecting to identify improvements

Meaningful reflection occurs when you thoughtfully review your practices and develop ideas for improvement.

While reflection helps to improve the service's level of environmental responsibility, it will also assist with understanding and planning more effectively.

Whatever type of evaluation method you choose, you must be realistic about:

- who will evaluate
- the amount of time required to design the evaluation and gather, interpret, collate and report the data.

Critical reflection is a process used to identify future directions and improvements by considering current attitudes and motivations. This allows you to work toward a higher level of understanding or application of skills and knowledge.

While reflection is about checking on how you are going and asking yourself questions, critical reflection is a more in-depth process with improvement and development in mind.

Methods of reflection

Other people can provide useful reflective feedback about their support for any environmental responsibility improvement.

By giving others opportunities to express their ideas, opinions, requests or thoughts, you are meeting both their needs and your own.

Ways to gain reflections from others include:

- talking to people – during visits, interviews, spontaneous discussion and meetings
- gathering feedback – through suggestion boxes, surveys and forms
- observing and listening
- contacting by phone
- emailing
- using social media such as Facebook or in-house programs or apps.

Here are some methods for reflecting critically and a description of how they can be implemented. Remember to use both qualitative and quantitative data to critically reflect.

Questioning

Before and after questions are useful for reflection.

Consider what you feel and think before you start a project, implement an idea or make a decision for change. Be clear about your plans and intentions.

Reflect on:

- what you feel and think
- what you understand
- how this affects your future practice
- what you need to move forward, such as research, skills, support and cooperation
- what you want to achieve next.

Journals, diaries or reflection logs

Journals, diaries and logs can be used to record thoughts and feelings, allowing you to look back to evaluate any ideas and actions. They also demonstrate progress.

You can use critical reflection questions or write about:

- thoughts and ideas you have
- what has been discussed
- materials needed
- what you intend to focus on.

A journal could include research, comments, notes, professional development information, quotes, photos and sketches.

Formal discussion

Formal discussion is structured and may occur in meetings, forums and during professional development activities. It focuses on specific areas or topics.

Informal discussion

Unstructured discussions occur every day when you are talking to other educators, families and community members. Each discussion provides the opportunity to reflect on what has been said, how it affects your work and how information can be used to improve practices.

Event sample or checklist

An event sample or checklist might be used for reflection. It may be part of your service practice or something you develop yourself. The event sample or checklist might include various points that help you review skills and abilities or a list of actions to be completed.

Additional factors to consider

A number of factors need to be considered before implementing major changes in the service.

The following information addresses some of the issues of environmental responsibility.

Workforce and social sustainability

While sustainability measures are integral to the service's program, they are only one aspect of it.

The people involved in your organisation, including staff and other stakeholders, are your most valuable resource. Without their input and commitment, there is no program. You need to be mindful of the additional demands the changes will put on them.

Take care of yourself and others by introducing changes gradually to avoid burnout. Ensure you respect the rights of all stakeholders whenever changes are being suggested or introduced.

Positive relationships with families

Communication with parents needs to be respectful and open-ended. There is a risk of putting families offside with environmental 'propaganda' and sending children home with lists of things that they must do to save the planet. If there is a conflict of beliefs and values between the service and the home, children may feel disempowered, stressed or confused, and families may feel resentful or resistant.

Consultation and opportunities for participation can assist the service to be more responsive to the views of families. Communication should be positive, open-ended and non-confrontational.

Financial costs

Changing to environmentally friendly appliances and resources can be expensive. The choice to become more environmentally friendly may mean other program budgets need to be reduced. Consider whether the practices are financially sustainable in the long term.

Make a plan to move towards the changes that realistically take into account the available budget. Stakeholders can be involved in coming up with ways to implement change with minimal expenditure; for example, donations, fundraisers or sponsorships.

Pros and cons of change

Time constraints and financial costs of each change you plan to make can be challenging.

It is important to weigh up the value of changes and ascertain if there is sufficient benefit to warrant these costs.

Consider these positive and negative outcomes of possible changes before they are implemented. Many times you will face an ethical dilemma as there may be two equal or very similar outcomes. The choice might ultimately come down to your commitment to environmental responsibility, the opinions of stakeholders or the resources you have available to implement the change.

The following example outlines the pros and cons of some changes a service might choose to make. Each demonstrates an ethical dilemma.

Ethical dilemma	Pros	Cons	Suggestions
Replacing disposable nappies with reusable cloth nappies	➤ Disposable nappies create massive amounts of landfill and this would be reduced. ➤ Cloth nappies may be provided by a specialised company; it is more viable for a company like this to implement sustainable practices.	➤ Cloth nappies use chemicals and water for washing.	➤ Biodegradable disposable nappies could be used, which will also benefit the environment. ➤ Natural cleaning products could be used to wash cloth nappies.
Replacing plastic cups with reusable cups	➤ This would reduce the amount of waste going to landfill – plastic cups may never completely break down.	➤ Reusable cups will require washing, which uses more water, detergent, electricity and time.	
Replacing print communication with electronic communication	➤ This would reduce the amount of paper used.	➤ Communicating via email or using electronic data systems requires more electricity. ➤ Some electronic devices and equipment may not be easily repaired or recycled.	➤ Paper can be reused and recycled. ➤ Some electronic parts can be recycled.

Example

Consulting about change

Celine, a team leader, wants to implement her idea of using cloth nappies in the service and getting them laundered rather than using disposable nappies. Celine decides to look into all the details and options before raising the idea with staff and families for consultation.

She obtains quantitative data by working out what the initial and ongoing costs would be. She obtains qualitative data relating to how the change would be implemented, what new processes and procedures would need to be created and how this would impact routines.

Celine meets with the team leaders involved to suggest her idea and organises for them to visit a local service that already has this practice in place. Celine then presents the idea and the findings from the service tour at a general staff meeting where educators and management discuss the pros and cons.

The general consensus is that it is a positive and achievable change, but some staff are concerned about how families will feel about it. Celine informs all families about the proposal and sends a link to an anonymous survey they can complete. She makes time for families and staff to raise questions and concerns. A meeting is then held to further brainstorm concerns/resolutions and suggestions.

Practice Task 8

1. Which of the following statements about critical reflection are correct? Select yes or no for each one.

a.	Critical reflection is a process used to identify future directions and improvements by considering current attitudes and motivations.	* Yes	* No
b.	Quantitative and qualitative data is not useful to reflect. It is better to use for reports.	* Yes	* No
c.	You can gather reflective feedback through general conversations and discussions, or through surveys, meetings, questionnaires or forms.	* Yes	* No
d.	Only educators can provide useful reflective feedback that supports environmental responsibility improvements as they understand the curriculum and the service philosophy.	* Yes	* No
e.	There are many different methods that can be used for critical reflection, including journals, diaries, reflection logs, informal and formal discussions, event samples and checklists.	* Yes	* No

2. Draw a line to match each factor about preparing for change to its definition.

* Facilitating change	* To work through these positively, it is important to listen to everyone and include their concerns in the consultation process
* Pros and cons	* Using a range of methods to encourage stakeholders to participate and allow people to feel involved
* Resistance and negative attitudes	* Considering different factors, such as whether the time constraints and financial costs are worth the benefits that the change will bring

Summary

- To be effective and ongoing, environmental responsibility needs to be embedded in the service's philosophy, policy, procedures and practices.
- Philosophies, policies and procedures should identify environmentally responsible practices and be reviewed regularly to ensure they promote sustainable work practices and remain up to date.
- Families and the wider community are an important source of knowledge, skills and values. Sharing information and ideas about environmental responsibility is the best way to engage their attention and get them involved.
- If you are inviting others to participate in discussions and give feedback, make sure this is not a token gesture and that you take contributions seriously.
- Children are the focus of all curriculum plans and the environment. Therefore, they should be consulted about the environmental responsibility program.
- Regularly review whether current environmental responsibility policies and processes are being implemented and identify areas for potential change. This can be part of a critical reflection process.
- When involving others in change, let them know what the strategy is, why it is beneficial, what preparation is required and what resources are needed, and provide clear details of the implementation.

Learning Checkpoint 3
Identifying changes and improvements

Part A

Read the case study and answer the questions that follow.

Case study

In the service, environmental responsibility is represented in the following ways.

Philosophy: 'The service will value and respect the natural environment.'

Policy: 'To maintain a flower garden near the fence line of the yard to show families and the community our commitment to natural environments.'

Procedures and practices: 'The flower garden will be maintained by the educators of the service. Educators will water the flower garden twice a week. They will weed the garden before or after hours once a week.'

Currently the flower garden has not been tended for over two months. It is overgrown and weeds are predominant. There are no living flowering plants.

1. Which of the following require review to ensure they include best-practice environmental responsibility actions? Select all that apply.

- ☐ The definition of what is included in a natural environment in an education and care service
- ☐ Gardening skills and the ability to roster weeding and watering procedures
- ☐ How to include multiple aspects of environmental responsibility, not just a flower garden
- ☐ How to poison weeds in the flower bed
- ☐ Including additional natural resources in the service

2. As a result of research, the service identifies it would like to plant native plants in the garden and use some natural materials to make paths and tracks in the yard. This would increase its ability to demonstrate how important the natural environment is as part of best practice.

   Which of the following statements are correct? Select yes or no for each.

   a. The service must update its philosophy before any changes are made as it does not currently mention native plants or natural paths and tracks. * Yes * No

   b. The service policies, procedures and practices should be reviewed to reflect the new direction in respecting the natural environment. * Yes * No

   c. The priority is for the new actions to take place. Changing the philosophy, policy, procedures and practices will come second. Finally, involving others in the ongoing development of environmental responsibility will occur. * Yes * No

3. Match each stakeholder with the most suitable method for involvement.

* Children	* Hold a meeting and develop a sub-committee of interested people.
* Service staff	* Learn about a range of gardens and landscapes through excursions, books, posters, video or research online.
* Community	* Conduct a brainstorming session to build interest, knowledge, skills and enthusiasm.
* Families	* Ask for donations of plants and other materials.
* Supervisor	* Share outcomes, review actions and evaluate plans.

Part B

Read the case study, then answer the questions that follow.

Case study

Grady has reviewed his service and collected some information. While the details are not complete, he has gathered the following facts:

- There were 25 boxes of tissues used each week for the last three weeks.
- Excess water from drinking fountains is being used to water indoor plants. A tub is placed underneath and this collects water.
- An outdoor play space is being planned. Choices include a mud kitchen built using materials offered by a family or a climbing structure that can be purchased on sale at the local hardware store.
- The service clothes dryer is old and inefficient. It is starting to play up and needs to be replaced.
- The sustainability policy and procedures were last updated two years ago.
- It is getting into the warmer months and temperatures have been an average of 5 degrees warmer each day compared to the same time last year.

1. List two pieces of information that are quantitative.

2. List two pieces of information that are qualitative.

3. Use the information Grady has gathered to develop a SWOT analysis showing the service application of environmental responsibility. As part of the SWOT analysis, do the following:

   a. Identify one strength.

   b. Identify one weakness.

   c. Identify one opportunity for improvement.

   d. Identify one threat.

4. Grady would like to involve others in critical reflection so he can gather more information about the service and inform philosophy, policy and procedure development.

   Draw a line to match the most effective critical reflection method on the left to each stakeholder on the right.

* Holding a zoom meeting and gaining feedback and ideas. Finding out about their knowledge and skill base.	* Families
* Discussing ideas implemented at home and finding out their opinion on how environmentally responsible the service seems to them.	* Families
* Asking what they think about environmental responsibility actions in the service and if they have ideas on how to improve the curriculum for the children.	* Staff members
* Chatting during the day and checking how practices are implemented and if they have ideas for improvement.	* Staff members
* Asking them to take photos of things they think can be improved and then writing about their ideas.	* Children
* Making a pictorial checklist and asking them to draw how they would like to see the service environment.	* Children

5. Grady identified that there were 75 empty tissue boxes. Which of the following things might Grady do to show environmental responsibility? Select all that apply.

   - [ ] Squash them down so they take less space in the rubbish bin.
   - [ ] Recycle them.
   - [ ] Offer them to the children and ask them how they could be used.
   - [ ] Throw out all the plastic containers used to store art materials and replace these with the empty tissue boxes.
   - [ ] Discuss the use of tissues with stakeholders and gather up-to-date information on best practice.

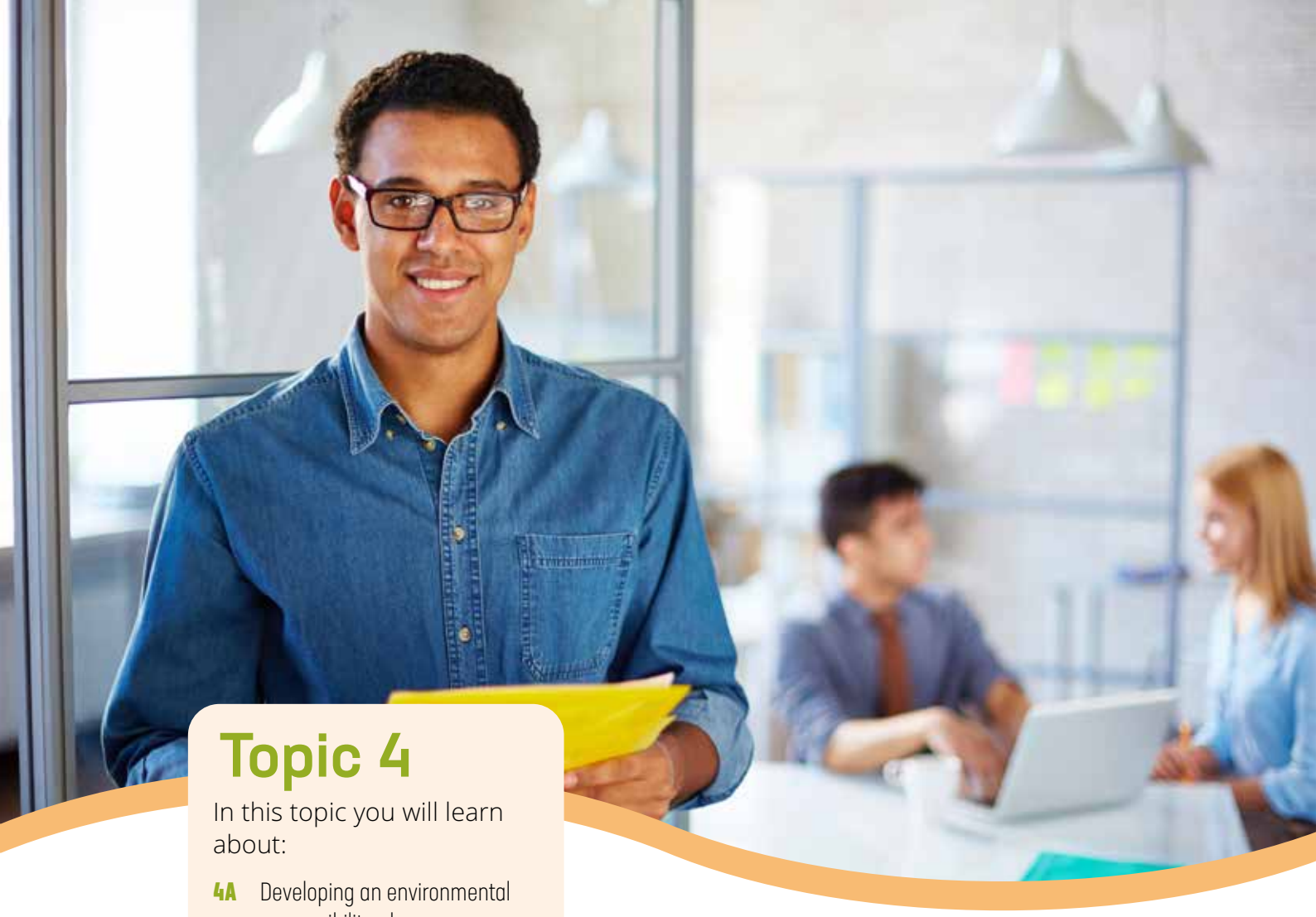
6. Reflect on the information provided by Grady and suggest one idea for saving energy.

7. Which of the following are suitable recommendations you could give to Grady? Select all that apply.

- ☐ The outdoor area should be rubber-matted and a shade area should be developed. This would provide an open-ended space that could be used for a variety of sustainable experiences.
- ☐ A mud kitchen would be environmentally responsible as it is made with upcycled materials and increases the natural environment.
- ☐ The climbing structure is on sale and this will save money, making it sustainable.
- ☐ Grady should ask stakeholders for their opinion.

8. Grady notices a building site has left some wood offcuts behind. Which of the following statements are correct?

- ☐ Grady should gather the wood offcuts and use them in the service. They are an opportunity for children to upcycle materials and to learn about building.
- ☐ Grady can discuss how he found the materials and encourage the children to be environmentally responsible by looking for unused building materials themselves.
- ☐ The wood offcuts may have been treated with toxins. They may include sharp or dangerous items. Grady is best to leave the wood offcuts.
- ☐ If Grady looks at the wood offcuts and checks that there are no sharp edges, they will be safe to use in the service.



Topic 4

In this topic you will learn about:

- **4A** Developing an environmental responsibility plan
- **4B** Implementing an environmental responsibility plan

Developing and implementing an environmental responsibility plan

An environmental responsibility plan is a good way to address sustainability.

It provides a mechanism for guiding people through the process of change by formalising goals and expectations.

The success of the plan is strengthened by including stakeholders at all stages of the change process.

4A Developing an environmental responsibility plan

The information you collect through consultation, evaluation and analysis is the evidence you need to support sustainable practices.

Once you have this information, you should be able to prepare an environmental responsibility plan that:

- identifies the issues or problems to be addressed
- summarises the changes that are required
- provides the rationale behind each suggested change.

Where possible, involve children in developing the plan.

The completed plan may need to be a detailed report. While this is complicated and unsuitable for children, they can still be involved in the development stages as you collect information and data, decide on goals and formulate strategies. If children are involved during the entire process of improvement, they will be more willing and interested participants when it comes to putting strategies into place. This will have the added value of involving educators and other staff, families and the community.

Setting goals

Clear goals allow you and all those involved to clearly understand the key improvements to be achieved as a model for best practice.

To make these effective:

- choose goals that are simple to achieve
- break big tasks into smaller chunks
- write the goal in simple, clear language
- be specific and clearly outline what you want to achieve.

If you set goals that are too large, you will not see progress and may become unclear about your purpose.

The following table shows a range of goals with some areas for potential change toward best practice.

Goal	Area	Potential changes to implement
Enhance ecosystems	Animals and insects	➢ Making a bird bath or feeder ➢ Building and/or installing an insect or animal shelter or nesting box ➢ Using natural pest control methods ➢ Researching, identifying and caring for native wildlife
	Plants	➢ Planting local indigenous species that do not require watering and will attract native birds. ➢ Growing vegetables and fruit to use in meals. ➢ Having a worm farm and compost heap ➢ Fertilising plants with worm farm compost ➢ Making natural pesticides from herbs ➢ Educating children about food sources
	Environment	➢ Using natural open-ended materials where possible, such as log offcuts, bark, leaves and gumnuts ➢ Returning natural materials to nature when they are no longer needed ➢ Using collected rainwater for watering plants ➢ Providing children with opportunities to experience a natural environment
Reduce pollution/ toxins	Cleaning	➢ Using natural and biodegradable cleaning agents ➢ Cleaning regularly to ensure only small amounts of products will be required ➢ Using non-toxic materials wherever possible ➢ Increasing use of sunlight and fresh air for drying clothing and disinfecting surfaces ➢ Reducing carpet areas to minimise dust collection ➢ Using the washing machine and dishwasher only when there is a full load
	Building	➢ Ensuring repairs to the building are environmentally friendly and non-toxic ➢ Renovating interior finishes to reduce toxicity ➢ Using paint and adhesives that have low levels of volatile organic compounds (VOC) that are toxic ➢ Using Green Label Plus or recycled content carpet
	Transport	➢ Taking public transport instead of driving ➢ Riding a bike or walking to local areas ➢ Carpooling whenever possible

Goal	Area	Potential changes to implement
Reduce energy	Heating	➢ Installing insulation ➢ Having solar power and solar hot water systems installed ➢ Using sunlight to warm rooms instead of heaters ➢ Dressing warmly to avoid having the heater on too high or too often ➢ Keeping thermostats at 20–21°C
	Cooling	➢ Keeping thermostats at 20–21°C ➢ Using shades and blinds to protect the building and windows from heat ➢ Taking advantage of natural ventilation ➢ Opening windows to cool down rooms
	Lighting	➢ Using light sensors outdoors so lights only come on when needed ➢ Using low-energy globes ➢ Keeping windows uncovered to make maximum use of natural light ➢ Having skylights installed ➢ Inserting north-facing windows to let in winter sun
Reduce waste	Purchasing	➢ Using equipment made from renewable natural sources ➢ Purchasing quality second-hand equipment ➢ Purchasing recycled and unbleached paper ➢ Installing 5-star energy rated appliances ➢ Purchasing materials from second-hand shops, charity organisations or recycling warehouses; for example: – Reverse Garbage (NSW) – Reverse Art Truck and Resource Rescue Inc. (Vic.) – That's Not Garbage (SA) – Reverse Garbage (Qld) ➢ Considering the source of the product and the carbon footprint of its production ➢ Using only recycled materials for art activities such as threading and collage ➢ Printing double-sided ➢ Communicating electronically ➢ Using fabric bags rather than plastic for shopping
	Maintenance	➢ Recycling unwanted equipment ➢ Reusing clean packaging materials ➢ Using refillable and reusable containers ➢ Providing handkerchiefs rather than tissues ➢ Using cloth towels to dry rather than disposable towels ➢ Repairing broken toys and equipment ➢ Upcycling containers

Putting it all together

Change is not a one-off intervention; it should be constantly occurring in response to evaluation and identifying actions for improvement.

To ensure changes are effective, there needs to be a commitment to the process. The plan should set out steps for this process to continue into the future.

The process for creating an environmental responsibility plan is outlined in the following table.

1. Create a focus	➢ Develop eco-literacy (an awareness of sustainability issues). ➢ Identify sustainable work practices. ➢ Analyse the environmental sustainability of the workplace.
2. Identify potential change	➢ Consult with stakeholders (including educators, children and families). ➢ Document feedback.
3. Address change	➢ Develop strategies for change. ➢ Deal with barriers to change. ➢ Implement change. ➢ Evaluate the outcomes.

The following example outlines how an environmental responsibility plan relating to waste management can be created and implemented using the process above.

1. Create a focus	➢ Develop eco-literacy: – Encourage appreciation of the natural environment – Discuss how the Earth has limited resources – Discuss reasons why humans cause pollution ➢ Identify sustainable work practices: – Recycling bins are widely used ➢ Analyse the environmental sustainability of the workplace: – Children are educated about the value and benefits of recycling – The service produces a lot of non-recyclable waste
2. Identify potential change	➢ Consult with stakeholders: – Potential area for change: Reducing waste in the service by using handkerchiefs instead of tissues – Consult with children, parents, other educators and stakeholders about the potential change ➢ Document feedback

3. Address change	➢ Develop strategies for change: – Research, consult and develop to make a decision on how the change will be made ➢ Deal with barriers to change: – Consider cost of changeover to handkerchiefs; how the handkerchiefs will be made or purchased; what washing or disinfection processes will need to be added to current procedures ➢ Implement change: – Use an action plan with strategies, tasks and responsibilities ➢ Evaluate the outcomes: – Collate feedback from people at the service and report on evaluation

Presenting a plan

An environmental responsibility plan can be used to discuss issues with stakeholders and to be clear about the actions that need to be taken to implement the change.

Remember to keep your plan clear, concise and tailored to the audience.

A plan should include data, findings and possible change information so that stakeholders know:

- why you want to make the change
- what the results of your evaluation and analysis were
- how you wish to go about enacting the change.

Quality improvement plan (QIP)

A QIP is an excellent way to present your environmental responsibility plan.

A QIP can be used as a guide to help you express your plan. By using the QIP format, you will be making sure everyone understands your information. This can also be incorporated into the full service QIP. By using a QIP, you are meeting the NQS Element 7.2.1 in showing how you implement continuous improvement.

The information you collect and present through data, findings and change overviews can inform this QIP and together create a comprehensive plan.

The components of a QIP include the following details.

Component	Description	Example
Goal	A clear and measurable goal allows you to identify progress and achievement. You may need one or more goals depending on the change.	For a recycling station to be developed and promoted to all stakeholders, then put into action with children's support and participation.
Priority	Setting the priority of the change as low, medium or high.	Medium

Component	Description	Example
Steps to achieve the goal	Steps are most effective if they are detailed and broken down into simple stages. Detailed, staged steps assist in showing progress. Steps might be sequential, meaning that you must do one thing before the next or they may be a list, where there are a number of different actions that must be taken to achieve the outcome.	Steps include: › Promote the idea to children, educators and families. › Gather materials required and set up with stakeholder support and ideas. › Develop posters to describe the actions needed to use the station effectively. › Create a video showing the process and how the station will be used. › Review after one month to identify improvements and effectiveness.
Success measures	Success measures are put in place so that you know when your goals have been achieved. Your success measures might also include the degree to which the goal is achieved.	Goals will be achieved when: › The recycling station is complete and being used regularly. › A video is playing in the foyer and available for families. › The first review has been completed.
Time lines	Time lines may be influenced by the priority of the goal or improvement. Alternatively, they may be influenced by the complexity of the improvement. By setting time lines your goal will not be forgotten.	To be completed within two months.
Progress notes	As you achieve each step or time line toward an improvement goal, record dated progress notes. These notes should reflect the actions taken so far to achieve the goal, but also include any change of direction, alteration or barriers that have been faced.	5 October: Began promoting idea to children, educators and families. 7 October: A parent provided some details about a recycling station she had seen work well. This information was incorporated into the design.

Example

Presenting evidence for change

Heather, an educator, asks the children to make a wish about what they would like to have in the service. She records this as a video. The video is put on display to families and educators in the service and results are collated to make a list of children's wishes.

Most of the children wish for a pet. Heather knows that keeping a pet could be a good learning experience, but that policies and procedures need to be identified, updated or created so that practices can be developed. Heather reviews the service's environmental responsibility policy and finds that keeping a pet may be incorporated into the policy under 'promoting an appreciation for nature'.

To present this area of possible change to others for discussion, Heather prepares the following table, which is presented with the video of the children's wishes.

Review findings	Changes		
Practices	**Policy**	**Procedures**	**Practices**
The children report that they would like to have a pet in the service.	Promoting an appreciation for nature	Developing responsibility	➤ Involving children in decision-making ➤ Taking responsibility for tasks ➤ Ensuring the animal's safety
		Learning about animals' needs	➤ Reading stories and watching DVDs ➤ Visiting the children's farm, zoo or pet shop ➤ Guest to visit with animals and talk about their needs
		Caring for an animal	➤ Providing housing and food ➤ Incorporating safe play and affection ➤ Cleaning and grooming

Practice Task 9

1. Environmental responsibility includes implementing sustainable best practice across a range of areas. Which of the following are suitable practices to include? Select all that apply.

- [ ] Water conservation
- [ ] How to eat well and conserve physical energy
- [ ] Maintaining the health of the natural environment
- [ ] Recycling and upcycling

2. Draw a line to match each aspect about developing an environmental responsibility plan to its definition.

* Environmental responsibility plans	* Can be used to gather the evidence you need to support sustainable practices.
* Consultation, evaluation and analysis	* This is not a one-off intervention, it should be constantly occurring as evaluation takes place and actions for improvement are identified.
* Data, findings and change information	* Can be used to describe issues and actions with stakeholders and to be clear about what needs to happen to put change into action.
* Change	* Provides the details such as why you want to make a change, what the results of an evaluation and analysis are and how you wish to enact a change.

4B Implementing an environmental responsibility plan

Once a commitment is made and clearly set out in a plan, the team can proceed with developing strategies to promote and implement change.

These may include:

- providing information and education
- providing opportunities to hear expert speakers
- inviting people to participate in meetings and activities
- providing opportunities to give feedback and suggestions.

Provide information about the change to staff and families.

Barriers to change

There may be barriers to manage prior to implementing change.

Not every stakeholder has the same value, knowledge or awareness of environmental sustainability. Barriers that may be faced include:

- the cost of the project
- little of no time for implementation or research
- perceived lack of value
- low level of commitment.

You can acknowledge and address any barriers sensitively to enhance the change process. Most barriers to change can be overcome if environmental responsibility is treated as a priority. Sometimes, the enthusiasm and commitment of one person can generate enthusiasm in others.

Some potential barriers are described in the following table.

Origin	Barrier	Guidance
Stakeholders	➤ Time constraints	➤ Design small, staged or staggered opportunities for participation.
	➤ Demands on already committed and supportive people ➤ Burnout	➤ Be realistic in assessing what can be done. ➤ Introduce change slowly, with clear avenues of communication for feedback.
	➤ Lack of motivation and frustration can develop if the program does not seem to be producing results	➤ Set small achievable, measurable targets to reinforce the value of people's involvement.

Origin	Barrier	Guidance
Service culture	➤ Inconsistent focus on goals. ➤ Varied opinions. ➤ Lack of commitment.	➤ Embed practices in daily routines. ➤ Use clear communication. ➤ Review the program regularly. ➤ Provide support in problem-solving and conflict resolution.
Resources	➤ Budgetary constraints.	➤ Find resources or labour in alternative ways
	➤ The built environment may not be ideal for maximising sustainability practices.	➤ Be innovative. ➤ Make small changes and develop a long-term plan for larger projects.
	➤ Environmentally friendly resources and supplies are not be available or affordable.	➤ Work with what is available to lessen your service's environmental footprint.

Negative and resistant attitudes can undermine a change and make it impossible to implement. Ignoring stakeholders or implementing changes without consultation can increase this resistance.

To reduce the likelihood of resistance, listen to everyone respectfully and include their concerns in a consultative process. Offer them support and involve them in creative problem-solving to promote a sense of empowerment.

Drivers for change

One of your most challenging tasks involves changing attitudes and behaviours.

It is almost impossible to change people's attitudes if they do not understand the reasons for the change and do not accept some level of responsibility.

In *Driving behavioural change*, Rhonda Miller supports this idea and suggests that the change process needs to be carefully planned. An organisation usually passes through three stages on its way to change, as the following outlines.

1. Unlearn the old behaviour	➤ Make sure everyone understands the need for change. ➤ Explain what would happen if the current behaviour is continued (for example, show the impact on the environment).
2. Apply the new behaviour	➤ Show how to make the change (for example, through coaching, mentoring or professional development). ➤ Focus on what needs to happen rather than on the problems associated with the change. ➤ Provide opportunities for people to try out the new behaviour in a safe and friendly environment. ➤ Provide professional development on the principles or aims behind the change, if necessary.
3. Embed the new behaviour	➤ Focus on the new behaviour until it becomes automatic. ➤ Regularly remind people to make the change. ➤ Provide consistent positive feedback when you see the new behaviour.

For more information, see: aspirelr.link/driving-behavioural-change.

Sphere of influence

It is impossible for you to be responsible for influencing all stakeholders.

Instead, you must consider your sphere of influence and choose to involve and support those you can involve successfully. These people may be those:

- who value your opinion
- you maintain a strong relationship with
- you are able to maintain a relationship with
- who you can communicate with regularly
- who may be or are already a part of your network.

An educators sphere of influence looks like the following.

Staff members may work together to maintain a larger, more effective sphere of influence.

Preparing for change

Where possible, allow stakeholders to participate in preparing for the change.

When you are preparing to introduce a change related to environmental responsibility, involve the stakeholders, including children, by providing information about the reasons behind the change.

Children can help measure, cost, count, write notes and draw plans. They can also become aware of why the change is being made.

Example

Involving children in change

Karen is an educator who wishes to start a compost heap at the service. The following is her plan for involving children in the change.

Action: Starting a compost heap	
Benefits	➤ Recycling ➤ Reducing waste ➤ Creating mulch and fertiliser for the garden ➤ Involving parents and children ➤ Learning about ecosystems and biodiversity
Preparation	➤ Educators will: – read Garden Greenies compost page online at: aspirelr.link/how-to-make-compost – help children to create a poster about the things that can go into the compost heap – build or buy a compost container.
Resources	➤ Compost container ➤ Child-sized shovels and rakes ➤ Gardening gloves
Implementation	➤ Children will put scraps into the compost heap. ➤ Children or educators will turn over the heap every few days.
How to involve children	➤ Decide where the compost bin will go. ➤ Write to the council to see if they will donate a compost bin. ➤ Access the compost bin from council or in a garden centre. ➤ Set up the compost bin ➤ Encourage children to empty scraps into the heap. ➤ Discuss biodiversity and ecosystems. ➤ Discuss what happens in the compost heap. ➤ Encourage children to bring scraps from home for the heap.

Motivating people to make changes

Incentives can motivate people to make changes.

Some ideas for incentives to increase participation in the service's sustainability practices include:

- making discussions about the environment social and fun; for example, holding a quiz night on the topic of the environment to stimulate discussion of environmental sustainability themes
- holding a barbecue after a weekend gardening session
- holding events that provide useful information for families; for example, advertising an event focused on environmental responsibility as one that includes 'tips to save money on your bills'
- offering free items or information on how to obtain government-subsidised items for reducing energy consumption
- organising discounted energy-saving items through local suppliers.

These strategies strive to maximise the key elements for effective change, as described in the following table.

Education	Two things are essential for sustainable practice: - Appreciation of the natural world. - Knowledge of human impact on the natural world. The service must take a role in educating all stakeholders in these matters.
Consultation	Strategies for change must involve all stakeholders. Colleagues, families, children and the community are valuable resources and may already be involved in implementing sustainable practices outside your organisation. Remember to take into account the knowledge and resources stakeholders can contribute.
Participation	Wherever possible, policies, procedures and practices need to be agreed upon with stakeholders. The more involved people are, the more meaning and relevance the change will hold for them, and the more empowered they will feel.
Action	Changes need to be geared towards positive, achievable goals with clearly outlined tasks and responsibilities. An action plan that defines stakeholders' roles ensures that everyone has a part to play and is responsible for the success of the change.
Recognition of achievements	Acknowledging progress and achievements, and taking small steps toward attaining larger goals keeps stakeholders engaged and helps the program maintain its momentum. Global environmental issues often seem far removed from our day-to-day lives. Constant recognition and reinforcement of positive visible changes supports morale and motivation.

Evaluating change

To ensure that changes are adequately implemented, an evaluation process should take place.

An effective method for evaluating change is to use the same method for analysing information that you used in your initial identification of the change opportunities.

These evaluations might include:

- SWOT analysis
- measuring your carbon footprint
- self-assessment
- benchmarking.

If you set out your plan in way that is clear and measurable, such as using a QIP format, you will be including evaluation throughout the implementation process.

Example

Action plan for change

The decision to change to sustainable cleaning practices has been embedded in the service policies and procedures. The following table is a plan for change with clearly defined actions, roles and monitoring procedures.

Action plan for change		
Goal: To avoid the use of chemicals that are harmful to the environment.		
Actions	**Person responsible**	**Success measures**
Invite guests to speak to staff about the impact of chemicals on the environment and people's health.	➤ Director	➤ Feedback from workshops ➤ Formal questionnaire
Provide relevant and up-to-date literature on environmental issues.	➤ Project team of staff and parents	➤ Analyse use of resource library
Research alternatives to commercial cleaners and locate a local supplier.	➤ Staff ➤ Parents	➤ Staff feedback on effectiveness
Ensure staff are aware of the applications of cleaning products and provide adequate space and written instructions for mixing recipes.	➤ Supplier ➤ Expert consultant ➤ Parents	➤ Use staff confidence as an indicator
Conduct a meeting to advise parents of change.	➤ Director ➤ Project team	➤ Journal of questions and feedback

Actions	Person responsible	Success measures
Provide a forum for staff to raise concerns, discuss issues and generate resolutions.	➤ Director	➤ Number of issues and concerns that have been resolved ➤ The level of discussion that is generated
Join conservation groups to keep staff informed of current developments.	➤ Director	➤ Informal feedback through incidental conversations

Practice Task 10

1. Draw a line to match each aspect about implementing change to its definition.

* Involve the children	* Alter stakeholders' behaviours and attitudes by ensuring they understand the reason for the change. Include those in your sphere of influence.
* Motivate people	* Allow children to assist through actions such as measuring, counting, writing notes and drawing plans.
* Check the effectiveness of the change	* Use incentives such as making the discussion part of a social event and making the changes relevant to the stakeholders.
* Implement change	* Evaluate the change by using the same method that you used to initially analyse the information and identify possibilities for change.

Summary

- The information you collect through consultation, evaluation and analysis is the evidence you need to support sustainable practices. Once you have this information, you should be able to prepare an environmental responsibility plan.
- An environmental responsibility plan can be used to discuss issues with stakeholders and to be clear about the actions that need to be taken to implement the change.
- A quality improvement plan (QIP) is an excellent way to present your environmental responsibility plan.
- Incentives can motivate people to make changes.
- An evaluation process should take place to check that changes are adequately implemented.

Learning Checkpoint 4
Developing and implementing an environmental responsibility plan

Read the case study and answer the questions that follow.

Case study

Akena is an educator who has taken the following photo of what she noticed in the rubbish bin, on her way out of the service today. She wishes to address an issue through an environmental responsibility plan that would be presented in a QIP format as required by NQS Element 7.2.1.

1. Which of the following is an appropriate goal for Akena's environmental responsibility plan? Select the correct answer.

- ☐ For all staff to assess damaged materials and equipment, and identify how these materials might be upcycled prior to choosing landfill disposal
- ☐ For all materials to be kept out of the rubbish bin
- ☐ For rubbish bins to be loaded to a level where the lids can be closed safely
- ☐ For all staff to be sure that materials placed in rubbish bins are damaged beyond normal use prior to placing in rubbish bins
- ☐ For Akena to discuss bin sizes with all those in her sphere of influence

2. What priority should Akena place on this plan? Select the correct answer.

- ☐ Low – The issue is not detrimental to sustainability.
- ☐ Medium – The issue has an impact on sustainability.
- ☐ High – The issue is dangerous to the environment and must be dealt with immediately.

3. Akena is aware that she is facing barriers to change. She will use drivers for change so stakeholders will unlearn old behaviour and apply the new behaviour. She plans the steps of her environmental responsibility plan accordingly.

   Number each step from 1 to 6 in the order Akena's environmental responsibility plan should occur.

   ☐ Place images of the materials and resources on the service's social media page and encourage all stakeholders, including children, to come up with ideas on how the items might be upcycled.

   ☐ Develop policy and procedures to reflect decisions.

   ☐ Discuss the process with stakeholders and identify if the process should occur for all damaged materials and equipment.

   ☐ Plan training and professional development for stakeholders so they are able to put any expected actions into place as described in policies and procedures.

   ☐ Remove the items from the rubbish bin and use them as a discussion point.

   ☐ Put resulting social media ideas into practice and present outcomes for stakeholders to see.

4. Which of the following are success measures that may be appropriate for Akena to document in the environmental responsibility plan? Select all that apply.

   ☐ Ideas for using the materials and resources are successfully implemented.

   ☐ Social media has gained more responses than other posts.

   ☐ The policy and procedure updates that have been made to reflect decisions that have been put into action.

   ☐ The policy and procedures are updated to reflect decisions that have been put into action.

   ☐ Training and professional development has been attended.

   ☐ Every stakeholder has participated in the process in some way.