The Daradgee Farm Yard is an integral part of our Sustainability program, rich in exciting hands on experiential learning opportunities.

The Farm Yard program gives the students the opportunity to actively investigate and develop an understanding of plants and animals while emphasising the significance of managing our resources in a sustainable way.

- Collecting chicken eggs, viewing incubation, experiencing hatching and the caring of young chicks.
- Recycling food waste to pigs, worm farms and compost systems.
- Planting and harvesting fresh vegetables, herbs and fruit.
  - Caring for and learning about farm animals and our snake Roxanne.

Importantly, the Daradgee Farm is a successful closed food waste system. All plant based food waste is fed to our farm animals or composted on site while meat waste is recycled through our local animal refuge.

These real life learning experiences bring your students closer to our environments and in doing so develop stronger relationships and support their personal and community responsibilities. Much of what is experienced at the Daradgee farm may be transferred into your students’ school and home settings creating a more sustainable pattern of living.
Activity Overview
Students will learn to manage their waste using a variety of methods.
Students will understand that living things have basic needs such as food and water.

Core Learning Intent
Water, food, shelter and the sustainable management of waste are essential for all living things (animals and plants).

Activity Objective
Students will -
- Develop an understanding of a range of alternate waste management and recycling strategies.
- Develop an understanding of the needs of farm animals and gardens.

Evidence of Learning
Students can -
- Manage their camp waste actively processing through appropriate disposal methods
  - Composting, worm farming and recycling through vegetable gardens, nursery etc.
  - Feeding appropriate food scraps to farm animals and recycling manure through compost,
    gardens etc.
- Recognise and meet the needs of living things through the provision of food, water and shelter.
- Safely and responsibly care for plants and animals.
- Understand the requirements for/and stages of the life cycle of chickens.

Curriculum Links
Australian Curriculum - Science
The farmyard program is connected to the Australian Curriculum in the following instances:

Prep - Science Understanding: Biological Sciences
Living things have basic needs, including food and water
Elaborations
• recognising the needs of living things in a range of situations such as pets at home, plants in the garden or plants and animals in bushland

Prep - Science Inquiry Skills: Communicating
Content description
Share observations and ideas
Elaborations
• working in groups to describe what students have done and what they have found out

Year 1 - Science Understanding / Biological sciences
Content description
Living things have a variety of external features
Elaborations
• recognising common features of animals such as head, legs and wings
• describing the use of animal body parts for particular purposes such as moving and feeding
• identifying common features of plants such as leaves and roots
• describing the use of plant parts for particular purposes such as making food and obtaining water

Year 1 - Science Understanding - Biological sciences
Content description
Living things live in different places where their needs are met
Elaborations
• exploring different habitats in the local environment such as the beach, bush and backyard
• recognising that different living things live in different places such as land and water
• exploring what happens when habitats change and some living things can no longer have their needs met

Year 2 - Science Understanding - Biological sciences
Content description
Living things grow, change and have offspring similar to themselves
Elaborations
• recognising that living things have predictable characteristics at different stages of development
• exploring different characteristics of life stages in animals such as egg, caterpillar and butterfly
• observing that all animals have offspring, usually with two parents

**Year 2 - Science as a Human Endeavour - Use and influence of science**

Content description
People use science in their daily lives, including when caring for their environment and living things. Elaborations
• identifying the ways humans manage and protect resources, such as reducing waste and caring for water supplies

**Year 4 Science Understanding - Biological sciences**

Content description
Living things have life cycles. Elaborations
• making and recording observations of living things as they develop through their life cycles
• describing the stages of life cycles of different living things such as insects, birds, frogs and flowering plants
• recognising that environmental factors can affect life cycles such as fire and seed germination

Year 4 Science as a Human Endeavour - Use and influence of science

Content description
Science knowledge helps people to understand the effect of their actions. Elaborations
• considering methods of waste management and how they can affect the environment

**Year 5 Science Understanding - Biological sciences**

Content description
Living things have structural features and adaptations that help them to survive in their environment. Elaborations
• explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants
• describing and listing adaptations of living things suited for particular Australian environments
• exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts

**Year 6 Science Understanding - Biological sciences**

Content Description
The growth and survival of living things are affected by the physical conditions of their environment. Elaborations
• investigating how changing the physical conditions for plants impacts on their growth and survival such as salt water, use of fertilizers and soil types

**Year 7 Science Understanding - Biological sciences**

Content Description
Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions. Elaborations
• recognising the role of microorganisms within food chains and food webs
• exploring how living things can cause changes to their environment and impact other living things, such as the effect of cane toads
• researching specific examples of human activity, such as the use of fire by traditional Aboriginal people and the effects of palm oil harvesting in Sumatra and Borneo

**Cross-curriculum priorities - Sustainability**

O1.7 - Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.
O1.9 Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.
C2C Related Links

YEAR: Prep  C2C UNIT: Weather watch (E&S) Term 2  
*Primary Connections UNIT*: Weather in my world  
WALT: discuss that seasonal change can affect the success or not of the chicken breeding program at the Centre.

**C2C UNIT**: Our living world (Biol.) Term 1  *Primary Connections UNIT*: Staying alive  
WALT: understand that water and food are important needs for life of all animals on the farm. Each type of animal needs different foods. Animals can be grouped using external features.

YEAR 1  **C2C UNIT**: Living Adventure (Biol.) Term 1  
*Primary Connections UNIT*: Schoolyard safari  
WALT: understand that animals and plants need different habitat requirements. (e.g. pigs, chickens, geese)

YEAR 2  **C2C UNIT**: Mix, Make, Use (E&S) Term 1  
*Primary Connections UNIT*: All mixed up  
WALT: understand that water is used to help hatch chickens in an incubator. The chickens need to drink it as well.

**C2C UNIT**: Good to Grow (Biol.) Term 3  *Primary Connections UNIT*: Plants in action  
WALT: understand that living things grow, change and have offspring similar to themselves. (e.g. pigs, chickens, geese)

YEAR 3  **C2C UNIT**: Is it living? (Biol.) Term 1  
*Primary Connections UNIT*: Feathers, fur or scales  
WALT: identify living, non-living and once living things in breeding chickens (e.g. grain food for chickens, egg shell after the chicken is hatched)

YEAR 4  **C2C UNIT**: Ready, set, grow (Biol) Term 2  
*Primary Connections UNIT*: Plants in action  
WALT: identify and explain how the life cycle of a chicken is sustained in the egg, juvenile chicken and adult fowl in terms of origins of food, water, protection, life skills.

YEAR 5  **C2C UNIT**: Exploring our new world (Biol) Term 1  
*Primary Connections UNIT*: Adaptations  
WALT: identify environmental conditions required for chicken hatchlings to survive and how to protect themselves in various stages of growth into adulthood. (e.g. weather conditions- overheating, incubation period, food choice)

YEAR 6  **C2C UNIT**: Life on Earth (Biol.) Term 4  
*Primary Connections UNIT*: Marvellous micro-organisms  
WALT: explain how the growth and survival of living things, such as chickens, can be affected by physical conditions of their environment, such as overcrowding in a small space, lack of water and nutrients, protection barriers broken, heat and cold.

YEAR 7  **C2C UNIT**: Organising organisms (Biol.) Term 4  
*Primary Connections UNIT*: Affecting organisms  
WALT: classify different fowl depending on physical features and place chickens in a food web or food chain

**SNAKE TALK**

YEAR: PREP.  **C2C UNIT**: Our living World (Biol.) Term 1  
*Primary Connections UNIT*: Staying alive  
WALT: identify how the snake survives in a cage in terms of food and water requirements. Discuss how snakes obtain food and water in the rainforest.

**C2C UNIT**: Weather watch (E&S) Term 3  
*Primary Connections UNIT*: Weather in my world  
WALT: explore how changes to the weather affect what snakes do. (e.g. not so active in the colder months?)

YEAR 1  **C2C UNIT**: Living adventure (Biol.) Term 1  
*Primary Connections UNIT*: Schoolyard safari
WALT: locate the food and water needs of animals, such as snakes, in the wild, (as in the rainforest).

YEAR 2  C2C UNIT: Good to grow (Biol.) Term 3  Primary Connections UNIT: Watch me grow
WALT: explore that animals such as snakes, give birth to offspring similar to adults
C2C UNIT: Save planet Earth (E&S) Term 4  Primary Connections UNIT: Water works
WALT: discuss how snakes obtain water in order to survive. Discuss how other reptiles, e.g. those animals living in the desert obtain enough water supply to live

YEAR 3  C2C UNIT: Is it living? (Biol.) Term 1  Primary Connections UNIT: Feathers. Fur od scales
WALT: group the things in the snake’s cage as living, non-living and once living
C2C UNIT: Hot stuff (Phys.) Term 3  Primary Connections UNIT: Heat
WALT: explore and explain how energy is transferred from one part of a food chain - plant -> rat -> snake

YEAR 4  C2C UNIT: Ready, set, grow (Biol.) Term 2  Primary Connections UNIT: Plants in action
WALT: discuss what living things, (animal and plant), the snake depends upon to live.

YEAR 5  C2C UNIT: Exploring our new World (Biol.) Term 1  Primary Connections UNIT: Adaptations
YEAR 6  C2C UNIT: Life on Earth (Biol.) Term 4  Primary Connections UNIT: Marvellous micro-organisms
WALT: identify what physical conditions are required to sustain the life of a snake

YEAR 7  C2C UNIT: Organising organisms  Primary Connections UNIT:
WALT: determine roles various rainforest living things play in a rainforest food chain.

### Pedagogy

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### Introduction

Students assemble with hats and closed in shoes before moving as a group with supervising teachers and adults to the Farmyard shed to await instructions relating to safety and rules. For the benefit of all students and accompanying adults, the DEEC staff clearly explains the general layout of the farmyard and safety requirements when using equipment, handling animals and hygiene etc. Students are engaged in conversations which reflect animal requirements for health and wellbeing, as well as sustainable patterns of living.

### Body

#### Farmyard chores

Students engage in a range of animal husbandry tasks to manage livestock. DEEC staff outline tasks and designate them to supervising adults before dispersing small groups of students to these areas with task cards.

- **WATER:** The water containers are emptied, scrubbed clean and refilled. Students experience varying water pumping technologies as they pump water by hand or refill containers with water pumped into tanks by a windmill.
- **FOOD & RECYCLING:** Recycling of food wastes (already selectively sorted by students) encompasses dispersing food to animals, composting systems and worm farms. In addition, grain is cracked and adequate food pellets, crumbles and grains are supplied to all of the animals. Dried egg shells from the kitchen are crushed and added to either the poultry food or sprinkled over garden beds.
- **CORNCRACKER:** This requires individually (or in pairs) turning a handle to mill grain. Care is needed with the following - observing students have ample room to turn handle - ensuring steel mesh cover remains in place.
- **SHELTER:** Shelters are maintained by removing manure (for composting) before the floors are washed/re-lined. Fresh straw placed is placed into nest boxes when necessary and eggs are collected from nest boxes. Eggs are stored for either natural or artificial incubation processes.

### Lifecycles

22/08/2012
A DEEC led presentation focuses on the natural and artificial incubation of eggs from our Farmyard.

- Students can be involved in candling eggs - to observe stages of embryo growth.
- Observe chicks during the hatching process and handle juvenile chicks.
- Once dry, chicks are housed in snake proofed hatchling cages with heating devices which students are involved in maintaining.

**Snake Talk**
Students learn interesting facts about snakes in a safe, up-close interaction with one of our often misunderstood native wildlife species.

- Roxanne, our beautiful Coastal Carpet Python is introduced to students.
- Information presented is modified to suit specific requirements/units.
- Students develop a better understanding of biodiversity as well as overcome fears and misconceptions about snakes.
- As a finale students are permitted to touch Roxanne.

**Gardening**
Students become involved in tending to the fruit trees and raised garden beds.

- Planting seeds and seedlings
- Gathering produce, picking herbs, watering and weeding.
- Worm tea is poured onto garden beds for additional organic fertiliser.

**Photobook**
Students are introduced to process of taking quality photographs:

- Discussions and displays depict what makes an ‘ideal’ photo - subject position, background/foreground, lighting, space and focus etc.
- Instruction on correct use of digital cameras for macro and super macro use. Scroll through menu items are demonstrated to students enabling them to turn flash on and off depending on situation in which photo requires.
- How to delete photos from the cameras as the activity progresses.
- Once students are familiar with camera operations they set out in small groups to take photos.

An example of Photobook being used in Science is as follows:

**ACARA Yr5 Sci. Understanding**
- Living things have structural features and adaptations that help them to survive in their environment.
- Activity: students photograph pre-visit to edit photos of domestic farm animals adaptions ie. poultry-claws, feathers, beaks, eggs.
- Conclusion: students regroup to debrief. Focus varies according to group curriculum intent.

Photobook may be used to provide evidence of learning focusing on a range of curriculum activities.

**Conclusion**
Task cards are collected and debrief carried out.
Additional time is allocated for students to spend on interacting with the variety of farm animals on site (pigs, geese, turkeys and chickens).
Students regroup prior to moving off to wash hands.

**Task Cards**

**Pigs**
Pour the **Animal Scraps** (from kitchen) or pellets into food chute.
Enter sty
Scratch & pat pigs
Shovel and remove manure into tub and transfer to the compost bins
Hose out sty
Re-coil hose
Exit pen - **Double check the gate is closed.**
Rinse scrap bins, manure container and shovel.
Return bins to kitchen
Wash hands

**Gardening**
Weed raised garden beds.
Throw weeds onto ground in farmyard for chickens to eat.
Pick herbs/vegetables - if required
Plant seeds/seedlings - if asked
Turn on irrigation system in farmyard.
Turn off irrigation before leaving farm area.
Close and lock garden gates
Rake leaves from farmyard.

**Fruit trees**
If seasonal fruit is required in the kitchen - students pick it fresh from the orchard.
A demonstration shows the students the correct picking technique.
Fruit is twisted and snapped rather than pulled and jerked from the branches. This reduces branch breakages and flower dislodgement.
Fruit is placed carefully into tubs and bags before being transported to the kitchen.
Students are engaged in juicing fruit for breakfast when it is abundant or it is cut for morning and afternoon teas.

**Nursery**
Collect water container, carry to tap near windmill.
Take water container apart and wash the insides with a rag.
Refill and return to chicken mansion.
Top up food container with chicken crumble.
After jobs are completed-nurse the poultry- chickens, ducklings, goslings or baby turkeys.
Close and lock door upon leaving the mansion.

**Hatchlings**
Remove chicks from enclosure
Remove dirty paper - tear it up and place into compost.
Replace newspaper with at least two layers of clean newspaper.
Remove/clean and refill water containers
Return water containers to cage
Top up feed crumble container
Nurse the chicks carefully
Return chicks to enclosure when finished and close lid

**Recycling**
Collect 2 compost bins from kitchen and dining room.
Collect remaining ingredients required for compost recipe
Add all ingredients to compost bin according to recipe.
Rinse kitchen compost bins - *pour the waste water into compost*
Return cleaned compost bins to the kitchen.
Return pig manure container to pig pen.
Using the compost worm/push pull device, turn/rotate all the piles.
Add water to all other bins (about 2.5l - use watering can).
Return all materials used

**Egg collection and chicken feeding**
Students with allergies to egg products must not participate in this activity or handle egg shell products.
Find cylindrical, hanging feed containers. Food is to be placed into these containers sheltered from the rain - never placed onto the ground.
Fill container until ¾ filled with chicken pellets/grain.
Collect an egg carton from inside farm shed.
Collect eggs - they can be hidden anywhere. Often hens are sitting on them!
Care is to be taken when checking under and around geese etc. when they are clucky and sitting on eggs.
Gently place eggs in carton (pointy end down).
Write the date on eggs with lead pencil.
Collect mortar and pestles.
Use these to crush dried egg shells from kitchen.
Add some of this to the chicken food cylinders and sprinkle over raised garden beds.
Sweep area once complete and set mortar and pestles away.

**Corn cracking**
Pour whole grain into the hopper - without removing steel mesh cover.
Place bucket at base of chute to catch cracked grain.
Individually or in pairs turn handle to mill grain.
Care is needed with the following  - observing students have ample room to turn handle
- ensuring steel mesh cover remains in place
- ensuring no fingers or other foreign matter is placed into grinder.
Once grain is cracked it will be added to large cylindrical containers in farmyard or used to handfeed animals at conclusion of session.

**Worm farm**
Open lid to worm farms.
Collect a handful of broken down compost from black compost OR a handful of animal scraps.
Spread compost/scraps evenly over top layer of worm tray.
Water each worm farm.
Replace lid on the farm.
Place watering can under tap at bottom of worm farm.
Open tap and drain worm tea until can is half full.
Fill can to top with water and pour this rich fertiliser onto the garden beds.
Return watering can to shed and ensure lids are placed back onto worm farms correctly.

**Water replenishment**
Empty the large, black plastic trough opening the tap at the end of trough.
Whilst letting the water drain, use a brush to clean base and sides of trough.
Once drained ask an adult to help you tip out the last bit of water.
Rinse with hose and close tap.
Refill trough with hose or hand water pump.
Remove wire cage from small sink.
Removing the plug from under the big stone to empty sink.
Use brush to clean off any dirt or slime.
Allow the sink to refill and replace wire cage.

**Corn/grain cracking**
Place a large bucket under the shoot of the Sunshine Corncracker.
Add mixed grain into hopper.
**PLEASE NOTE STEEL MESH ON HOPPER MUST REMAIN IN PLACE AT ALL TIMES!**
Turn the handle to crack grain.
Crack enough grain to fill a bucket.
Place grain into cylindrical containers in Farmyard.

**Free Range the Poultry**
Prior to engaging in tasks, gates to farmyard are opened and poultry is shepherded out onto grass.
Nesting chickens are to remain in their place unhindered.
Upon completion of all Farmyard tasks class shepherds poultry back into fenced area.
Gates are closed and double checked.

**Differentiation**
Students work in together in small groups with close adult supervision
Instructional cards include pictures relative to task
A broad range of tasks to interest students eg. Sketching, photography, handling live chicks.
Physical Challenges - Students with physical impairments ie. Require wheel chairs, crutches etc. may be able to walk to the Farmyard base site. These students may be able to work with a small group - engaging in tasks which are suited to their abilities.

**Safety**
See CARA - Farmyard & Recycling

**Resources**
- All tools and equipment provided by DEEC