

## Farms, Food & Fibre Camden Park EEC

<b>Stage:</b> 1/2	<b>Syllabus:</b> Science	<b>Content Focus:</b> Living World/Material world
<b>Program Overview</b> Students learn about the important role that farms play in the provision of quality food and fibre products and raw materials, and how these raw materials can be processed and turned into products for our own consumption.		
<b>Syllabus Outcomes</b> > ST2-5LW-T – A student describes how agricultural processes are used to grow plants and raise animals for food, clothing and shelter > ST2-6MW-S – A student describes how adding or removing heat causes a change of state		
<b>Syllabus Inquiry Questions</b>  1. How do materials change when heated and cooled? 2. How do you decide upon which material to use for a particular purpose?	<b>Syllabus Content</b> ( <i>Science</i> ) Students:  - identify solids, liquids and gases as states of matter  - recognise that a <u>change of state</u> can be caused by adding or removing heat (ACSSU046)  - describe examples of changes of state in everyday life  - <u>predict</u> and observe the effects of adding or removing heat on a variety of solids and/or liquids  - <u>investigate</u> how the <u>properties</u> of natural and processed <u>materials</u> influence their suitability and use in products, <u>services</u> and/or <u>environments</u>	

### Equipment Checklist

<b>1.Wool Production</b> - Classroom visual resources - Sheep in top paddock	<b>2.Rotations</b> - Cattle and Pastures - Tractor/Wagon - Chickens and eggs - Jugs, juicers, lemons, chopping boards, knives, sample cups, sugar, large spoon, measuring jug, water, tub, paper towel, hand sanitizer	<b>Rotations (cont.)</b> - Cooking equipment – fry pan, spatula, whisk, mixing bowls, forks and small bowls, timer, tarp, whiteboard/markers, paper towel, hand sanitizer, camera and television, bins	<b>4.Milkshake Making</b> - Protein shakers with whisk ball, containers with lids, full cream milk, flavouring
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### Timetable

Time	Activity	
	Aboriginal Acknowledgement / Introduction/Housekeeping	
	Wool Production/Sheep mustering/Health assessment/Wool inspection	
	Break	
	Rotations	
	Group 1	Group2
	Cattle and Pasture observations and comparisons – Tractor/Wagon	Chicken observation/ Egg collecting/ Scrambled Eggs (states of matter/heat application),
	Chicken observation/ Egg collecting/ Scrambled Eggs (states of matter/heat application)	Making fresh lemonade (selection of materials/products for specific purpose)
	Making fresh lemonade (selection of materials/products for specific purpose)	Cattle and Pasture observations and comparisons – Tractor/Wagon

	Break
	Milkshake Making

## Learning Activities

<p><b>1. Arrival</b></p> <ul style="list-style-type: none"> <li>- Welcome, Acknowledgement of Country and Introduction to day</li> <li>- Lead discussion that allows students to display prior knowledge of farms and the role they play in the provision of products that we regularly use, and how many of these products need to be changed or “processed” in order to be useful to us.</li> <li>- Outline activities as they relate to discussion.</li> </ul>	
<p><b>2. Wool Production/Sheep mustering/Health assessment/Wool inspection</b></p> <p>Discuss historical significance of sheep flock and the role that sheep have played in the development of Australia’s wool industry. Students provide knowledge on what they know about the use of sheep and wool within their own lives. Stress the importance of maintaining healthy sheep in order to produce quality wool and discuss ways that farmers may go about ensuring their sheep stay healthy. Under supervision, students are tasked with mustering the sheep into sheep yards, into the race and then, using the colour of the sheep skin as an indicator, assess overall health of the flock. Students asked for ideas on what they think determines a quality fleece and offer opinions on whether they think the sheep are growing a decent fleece.</p> <p><b>Assessment</b></p> <p>Recall of information:</p> <p>What can a farmer do to ensure sheep stay healthy?</p> <p>How do we determine wool quality and what different products are made using wool of varying quality?</p> <p>What is an easy way to see if a sheep is in generally good health, and what can a sheep accidentally eat that makes it unwell, causing a change to skin colour?</p>	<p><b>Learning intentions:</b></p> <ul style="list-style-type: none"> <li>-Students learn about the suitability of wool in the manufacture of products for our use</li> <li>-Students learn about the relationship between animal care and the quality of products that they produce.</li> </ul> <p><b>Success criteria:</b></p> <ul style="list-style-type: none"> <li>-Students can identify various uses of wool.</li> <li>-Students explain the features of wool that determine the overall quality, and how quality determines use of wool as a raw product.</li> <li>-Students understand the considerations related to agriculture and maintaining healthy animals in the production of raw materials.</li> </ul>
<p><b>3. Cattle and Pasture Observations</b></p> <ul style="list-style-type: none"> <li>- Using a tractor and wagon, students travel along the internal roads to view various types of cattle in different paddocks. Several stops are made along the way for discussion opportunities, where students knowledge of cattle is drawn upon to answer questions. Students make observations on the different pastures and provide opinions on which pastures they feel would better support a cow as it grows. Student knowledge is also drawn upon to discuss what grass and plants require to grow, and other features in the paddocks that are important for cattle – trees for shade, water source, feed with moisture and nutrient content etc.</li> <li>- Students view the various breeds of cattle on the farm, and o</li> </ul>	<p><b>Learning intentions:</b></p> <ul style="list-style-type: none"> <li>-students learn about the various resources and conditions required to raise healthy cattle suitable for beef and dairy production.</li> <li>-students understand that there are different breeds of cattle, and these breeds are suited to different industries. (beef/dairy)</li> </ul> <p><b>Success criteria:</b></p> <ul style="list-style-type: none"> <li>-On observation, students can independently identify features of pastures and paddocks that make them suitable for beef or dairy industry. (Shelter, water source, feed types, sufficient size etc)</li> <li>-Students can recall the types of cattle on the farm, their origins, and what features of these cows make them suitable for particular industries.</li> </ul>

<p><b>4.Chicken Coup/Scrambled Eggs</b></p> <ul style="list-style-type: none"> <li>-Students learn about the physiology of chickens, various breeds and their requirements as productive animals.</li> <li>- Enclosure is assessed for suitability and eggs are collected and taken into the classroom.</li> <li>- The ideas of liquids, solids and gases are introduced in this activity, with the application of heat being identified as the catalyst for changes of state in most substances. Students learn about some of the processes involved in turning a raw product into something that we, as consumers, can use, in this case scrambled eggs. Students work through the different processes from start to finish, starting with cracking the egg, whisking, and identify that the process can only be achieved through the application of heat, turning a substance that is a liquid into a solid suitable for consumption.</li> <li>- Students offer predictions as to how much time they think will be required before the liquid begins to change, and how much time will be required for the process to complete.</li> <li>- Activity concludes with students sampling the scrambled eggs.</li> </ul>	<p><b>Learning intentions:</b></p> <ul style="list-style-type: none"> <li>-students learn about the processing of raw materials and work through the process to take a raw product and turn it into a different product fit for our consumption.</li> <li>-students learn about heat as the catalyst to changes of state in raw materials</li> </ul> <p><b>Success criteria:</b></p> <ul style="list-style-type: none"> <li>-students can identify changes of state and explain the impact that the application of heat has upon the states of raw materials during processing.</li> <li>-students can predict what the changes resulting from the application of heat may look like (in this case, heat turning a liquid into a solid)</li> </ul>
<p><b>5.Fresh Lemonade</b></p> <ul style="list-style-type: none"> <li>-Students work in pairs to produce fresh lemonade using lemons from our lemon trees. Lemons are halved and then manual juicers are used to extract the juice from the lemons.</li> <li>- Juice is then combined and diluted slightly with water, with students sampling the juice, describing the flavour.</li> <li>- In order to make the mixture more palatable, students are required to select an additional ingredient from a variety of choices, that they believe will improve the flavour of the lemonade.</li> <li>-Once additional ingredient is decided upon, students are asked for suggestions of quantity required to strike a balance between sweet and sour tastes.</li> <li>- Students sample lemonade again, identifying the impact that certain substances can have on another.</li> </ul>	<p><b>Learning intentions:</b></p> <ul style="list-style-type: none"> <li>-Students observe healthy fruit trees and learn about conditions required to grow fresh produce, consideration of location of crop establishment, pest management etc.</li> <li>-Students learn about the extraction of one product from another, and how to process that raw material into a product fit for our consumption via the combination of appropriate raw materials.</li> </ul> <p><b>Success criteria:</b></p> <ul style="list-style-type: none"> <li>-Students can identify factors that impact upon the growth of fresh produce and suggest management practices that will improve the quality of crops and produce.</li> <li>-Students identify and select sugar as another farm-based product that, when combined with other ingredients during a processing phase, significantly impacts the flavour of an end product.</li> </ul>
<p><b>6.Making Milkshake</b></p> <ul style="list-style-type: none"> <li>- Following a specific procedure, students use a range of materials to encourage the production of a milkshake.</li> </ul>	<p><b>Learning intentions:</b></p> <ul style="list-style-type: none"> <li>-Students learn about the connection of farms to dairy</li> </ul>

<p>Ingredients include milk and flavouring. Equipment includes protein shake containers with whisk balls.</p> <ul style="list-style-type: none"><li>- Milk is poured into protein shaker and flavour added. Students are then required to agitate the container by shaking it for several minutes</li><li>- Students sample milkshake</li><li>-</li></ul>	<p>products that they use in their everyday lives.</p> <ul style="list-style-type: none"><li>-Students learn that many actions can bring about changes of state in raw materials.</li><li>-Students learn that there are often complex scientific processes occurring during a change of state.</li></ul> <p><b>Success criteria:</b></p> <ul style="list-style-type: none"><li>-Students identify the role of farms in the provision of a range of raw products and related consumables.</li><li>-Students recognise that heat is not the only catalyst for changes of state, with significant reduction of temperature also responsible for changes in some raw products.</li></ul>
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