



CountMe Application & Project

Map to Stage 3 NSW & National Curriculums

(Sample Lesson Plans: *Food for Thought*)

Application and Project Aim

To collect and analyse data concerning the nutritional content a class lunch boxes. A body of data can be built up over time to check if learnings on nutrition and health are influencing the content of the students' lunch boxes.

Outcomes Covered (NSW and National)

OUTCOMES & CONTENT		DESCRIPTION	RELEVANT ELABORATION	KOOKABERRY USE
NSW	National			
STAGE 3 SCIENCE & TECHNOLOGY				
ST3-1WS-S		Plans and conducts scientific investigations to answer testable questions, and collects and summarises data to communicate conclusions		<ul style="list-style-type: none">• Measuring data such as temperature; relative humidity; and soil moisture• Logging, analysis and display of measured data over time
ST3-2DP-T		Plans and uses materials, tools and equipment to develop solutions for a need or opportunity		Use of digital tool for data measurement



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ST3-3DP-T		Defines problems, and designs, modifies and follows algorithms to develop solutions		<ul style="list-style-type: none"> • Observes algorithms within app and modifies to suit
ST3-4LWS-S		Examines how the environment affects the growth, survival and adaptation of living things		<ul style="list-style-type: none"> • Measures the environment first • Explain measured result in outcome context
ST3-5LW-T		Explains how food and fibre are produced sustainably in managed environments for health and nutrition		Shows how defining a threshold (eg 70% DRY) can trigger automatic watering to maintain a sustainable environment
ST3-6MW-S		explains the effect of heat on the properties and behaviour of materials		<i>Not Applicable</i>
ST3-7MW-T		explains how the properties of materials determines their use for a range of purposes		<i>Not Applicable</i>
ST3-8PW-ST		explains how energy is transformed from one form to another		The electrical energy from the battery is converted to rotational energy in the pump
ST3-9PW-ST		investigates the effects of increasing or decreasing the		<i>Not Applicable</i>



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		strength of a specific contact or non-contact force		
ST3-10ES-S		explains regular events in the solar system and geological events on the Earth's surface		<i>Not Applicable</i>
ST3-11DI T		Explains how digital systems represent data, connect together to form networks and transmit data		The project built around this app covers this outcome
LW: Adaptations of Living Things	ACSSU043	Living things have structural features and adaptations that help them to survive in their environment	<ul style="list-style-type: none"> ● exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts 	<ul style="list-style-type: none"> ● Influence of moisture in soil on plant life
LW/MW/PW: Planning & Conducting Investigations	AC SIS086	Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks	<ul style="list-style-type: none"> ● experiencing a range of ways of investigating questions, including experimental testing, internet research, field observations and exploring simulations 	<ul style="list-style-type: none"> ● Measuring soil moisture, temperature or humidity over a period of time in the field
	AC SIS087	Decide variables to be changed and measured in fair tests, and observe measure and record data with accuracy using digital technologies as appropriate	<ul style="list-style-type: none"> ● using tools to accurately measure objects and events in investigation and exploring which tools provide the most accurate measurements ● recording data in tables and diagrams or electronically as digital images and spreadsheets 	<ul style="list-style-type: none"> ● Using the Kookaberry to gather data ● Transferring data to a PC ● Naming and using spreadsheet files representing digital temperature



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				readings
LW/MW/PW/ES/DT: Processing & analysing data	AC SIS090	Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate	<ul style="list-style-type: none"> • constructing tables, graphs and other graphic organisers to show trends in data • identifying patterns in data and developing explanations that fit these patterns • identifying similarities and differences in qualitative data in order to group items or materials 	<ul style="list-style-type: none"> • Constructing and analysing graphs of data gathered over time. • Varying the sample rate (which requires changing a variable in the coding or deconstructing graphs) and discussing the results
PW/ES/ Communicating	AC SIS093	Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multimodal texts	<ul style="list-style-type: none"> • discussing how models represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding 	<ul style="list-style-type: none"> • Making and monitoring a garden to demonstrate particular aspects of the influence of habitat on plant health.
LW: Growth & survival of living things	AC SSU094	The growth and survival of living things are affected by physical conditions of their environment	<ul style="list-style-type: none"> • Investigating how changing the physical conditions for plants impacts on their growth and survival such as salt water, Use of fertilizers and soil types • observing the growth of fungi such as yeast and bread mould in different conditions. 	<ul style="list-style-type: none"> • Use soil moisture probe to determine different soil conditions



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			<ul style="list-style-type: none"> • Researching organisms that live in extreme environments such as Antarctica or a desert. • Considering the effects of physical conditions causing migration and hibernation 	
STAGE 3 TECHNOLOGIES				
PW: Forces & energy in products and systems	ACTDEK020	Investigate how electrical energy can control movement, sound or light in a designed product or system	<ul style="list-style-type: none"> • deconstructing a product or system to discover how movement, sound or light can be controlled, for example deconstructing a torch or buzzer and exploring circuit design • investigating the features of electrical devices such as switches, light globes and sensors • recognising the need to carefully plan and select components for a system to perform a specific task • producing models using materials, tools and equipment to show how to control movement, sound or light • investigating the technologies in a control system for an identified need or opportunity 	<ul style="list-style-type: none"> • Can cover all relevant elaborations • Use both a resistive and capacitive moisture probe and research the difference in operation.



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			and user, for example a system that allows safe passage at pedestrian crossings	
<p>LW: Investigate how F&F are produced in managed environments.</p> <p>Explore plants and animals, tools and techniques used to prepare food to enable people to grow and be healthy</p>	ACTDEK021	Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy.	<ul style="list-style-type: none"> investigating and experimenting with different tools, equipment and methods of preparing soil and the effect on soil quality and sustainability including conserving and recycling nutrients, for example when designing a sustainable school vegetable garden or cropping area 	<ul style="list-style-type: none"> Measure different rates of drying out of soil using the moisture probe.
<p>DT: Producing & implementing</p>	ACTDIP016	Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information	<ul style="list-style-type: none"> using digital systems to validate data, for example setting data types in a spreadsheet to make sure a date is input correctly. selecting and using peripheral devices suitable to the data, for example using a data probe to collect data about changing soil temperatures for plants, interpreting the data and sharing the results as a digital graph 	<ul style="list-style-type: none"> Can cover all relevant elaborations



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			<ul style="list-style-type: none"> using data visualisation software to help in interpreting trends, for example uploading data to a web application and building a visualisation of the dataset 	
STAGE 3 MATHEMATICS				
TIME 1: Compare 12- and 24-hour systems and convert between them	ACMMG110	Compare 12- and 24-hour time systems and convert between them	<ul style="list-style-type: none"> using units hours, minutes and seconds 	<ul style="list-style-type: none"> Compare elapsed time in secs for default data logging with real time data logging
POSITION: Use a grid reference system to describe locations	ACMMG113	Use a grid reference system to describe locations. Describe routes using landmarks and directional language	<ul style="list-style-type: none"> creating a grid reference system for the classroom and using it to locate objects and describe routes from one object to another 	<ul style="list-style-type: none"> Making a plan of a garden and locate and identify position of Kookaberries used to monitor conditions at different places
DATA 1: Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and	ACMSP119	Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies	<ul style="list-style-type: none"> identifying the best methods of presenting data to illustrate the results of investigations and justifying the choice of representations 	<ul style="list-style-type: none"> Transferring time and variable (eg, temperature, moisture, humidity) to a PC and choosing the best Excel graph to illustrate the data measured.



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without the use of digital technologies				
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