**Technology**

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| **Year (s) 3/4** | **Situation/Big Question: What happens in the process “from moo to you”?** | **Duration 6 weeks** |
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| **Key Competencies:** (Highlight one focus key competency) | **Values** (Highlight one focus value) |
| Thinking; Using Language, symbols and text, Managing self; Relating to others; Participating and Contributing | Excellence; Innovation; Inquiry and Curiosity; Equity; Community and Participation; Ecological sustainability; Integrity; Respect |

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| **Level: 1** | **Achievement Objectives – Technological Practice**  |
| **Planning for Practice (PP)** Describe the outcome they are developing and identify the attributes it should have, taking account of the need or opportunity and the resources available. **Brief Development (BD)** Outline a general plan to support the development of an outcome, identifying appropriate steps and resources.**Outcome development and evaluation (ODE)** Investigate a context to communicate potential outcomes. Evaluate these against attributes; select and develop an outcome in keeping with the identified attributes. |
| **Achievement Objectives – Technological Knowledge**  |
|  **Technological modelling (TM)**Understand that functional models are used to represent reality and test design concepts and that prototypes are used to test Technological Outcomes**Technological products (TP)** Understand that technological products are made from materials that have performance properties.**Technological systems (TS)**Understand that technological systems have inputs, controlled transformations, and outputs. |
| **Achievement Objectives – Nature of Technology**  |
| **Characteristics of technology (CT)**Understand that technology is purposeful intervention through design**Characteristics of technological outcomes (CTO)** Understand that Technological Outcomes are products or systems developed by people and have a physical nature and a functional nature |

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| Tech cycle Y10.gif | **Teaching and Learning Experiences**(bullet point list of experiences) | **Learning Outcomes**(Assessment Focus) |
| **Session one**What do we know and want to know about cows, dairy farms and dairy products? Record childrens responses in Big Book.Where does milk come from? What products do you think have milk in them? What would you like to find out about dairy farms? What do we know about cows?Introduce Rosie - video and show her blog<http://www.rosiesworld.co.nz/about-rosie/video-cowbassador> **Session two**What is a breed? Discuss what breeds of cows the children already know. Watch the video about Rosies family and record answers to question sheet. Watch twice and pause video to allow children to record their answers<http://www.rosiesworld.co.nz/rosies-farm/video-family-tree-cowcam> **Session three**A cows digestive system - watch video about a cows digestive systesm. Children draw and label the system on a cow picture. What system is this? Refer back to charty from term on with social, natural, oraganisational and technological systems. Discuss the inputs, transformations and outputs of this system.<http://www.rosiesworld.co.nz/rosies-farm/video-from-grass-to-glass> **Session four**Clay cows – look at photos of cow parade <http://auckland.cowparade.net/cow/gallery> childre are going to make their own clay cow sculptures. These will be painted and displayed in class. Particular focus on the physical features of a cow. (3-4 art sessions to create)**Session five**Farm systems – read books and watch video of the process of milking cows on the farm. Particualar focus on the systems and technology being used. Can children identify the inputs, transformations and outputs? Children sort out a pictorial diagram of the steps in the process. <http://www.rosiesworld.co.nz/about-milk/video-about-milk> **Session six**Ask an expert – email our local dairy farmer that we are going to visit and ask our “burning questions” these may be answered via email or when we do the visit.**Session seven**Factory systems – research and learn about what happens in the factory. Children will split into groups and find out more about milk; pasturization, homoginisation and separation.<http://www.rosiesworld.co.nz/about-milk/video-about-milk>**Session eight**Robotics on the Farm – watch the movie about robotic dairy farms – is this what we will see when we go out? Pro’s and cons? What technology is involved? What is the system here? <http://www.rosiesworld.co.nz/rosies-farm/video-robotic-milking-farms-cowcam> **Session nine**Dairy farm visit – visit a local dairy farm to see the milking process in action.**Session ten to twelve**Posters – children are going to present their research and understanding on a poster. This will include a diagram of the digestive system and a technological system. Facts about cows and a photo of their clay cow. It will also have some information about dairy products.**Session thirteen**Evaluation - children to write a report of their ideas of “from Moo to you” Write it as if the person reading doesn’t know anything about the dairy process. | **TP****TK**• identify the components of a technological system and how they are connected • identify the input/s and output/s of particular technological systems • Identify that a system transforms an input to an output.**NoT**identify technological outcomes in a group of technological and non- technological objects and systems |
| **Key Resources****Website – Rosies World** [**http://www.rosiesworld.co.nz/**](http://www.rosiesworld.co.nz/)**Books about Dairy Farms –**  |
| **Thinking Strategy/Tool** |
| **E-Learning Tools****Websites, powerpoints, videos on Rosies World, email** |
| **Te Reo/Tikanga** |
| **Community Links****Visit to local dairy farm****Emailing a dairy farmer** |