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| **Stage: Early Stage One**  **Integrated unit: WHAT’S IT MADE OF?** | **Year: 2010 Term 4** | **Duration: 8 weeks** |
| **Aim/Rationale: What’s it made of? Through investigations, students develop skills of observing, describing, comparing and communicating. The unit provides opportunities for students to explore, through hands-on activities, what things are made of in the school environment and the properties of the materials used to make them.** | | |
| **Big Ideas**: **Natural and processed materials. Using the senses to observe properties. Products and services. Earth and its surroundings. Built environments.** | | |
| **Complex Question: What’s it made of? Identifying everyday materials. Why are some materials used for a particular purpose?** | | |
| **Inquiry Questions:**   1. **What are materials? Observe and describe some examples of everyday materials in our school environment?** 2. **What ways do we depend on the earth for materials and products? How can we design and make a new product - milk** | | |
| **Areas of Integration:**  ***English- Talking / Listening-Explore comparitive language and language of position and direction.***  ***Descriptions / information reports***  ***Reading-Shared reading of texts.***  ***Writing-Descriptions of materials-properties/characteristics.***  ***Creative Arts-Design: design a new classroom***  ***Mathematics- Graphing- sorting natural and man made according to attributes***  ***Measurement-use informal measurements eg footsteps***  ***Science & Technology/HSIE- Safety Issues/Conservation of the natural environment. Recycling and waste management.*** | | |
| **Understandings:**   * **Things in our environment are made from interesting materials** * **Materials can be either natural or man-made** * **Materials allow us to make and do things** | | |
| **Generic Skills:**  *Research*  *Communication*  *Solving Problems*  *Using Technology*  *Thinking Critically*  *Expression*  *Task Management*  *Cooperation*  *Responsibility* | | |

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| **Outcomes:**  ***HSIE:***  ***Students use language associated with time, change and place. They acquire information by direct observation, talking to others and by viewing, reading and listening to texts.***  ***Students identify and explore familiar natural and built environments, how to care for them and the activities that occur in them. They communicate knowledge and understanding orally, through writing and drawing and by constructing models.***  ***CREATIVE ARTS:***  ***Students make pictures and other artworks using the media and materials given, representing both real and imagined situations. They appreciate that artists make artworks and they begin to describe some aspects of artworks.***  ***MATHEMATICS:***  ***Students represent and interpret data displays made from objects and pictures.***  ***Students sequence events and use everyday language to describe the duration of activities.***  ***Students count to 30 and orders, reads and represents numbers in the range 0-20.***  ***SCIENCE & TECHNOLOGY:***  ***Students explore their immediate environment by using the senses, questioning, sharing ideas and identifying simple cause and effect relationships. They identify and safely use some equipment to explore. Students identify ways in which familiar products including information products, services and built environments meet the needs of people. Students identify and safely use some equipment and computer based technology to model and make things. They recognise different forms of energy and identify its use in daily life. Students recognise the different ways that information is sent and received and how these influence communication.***  ***ENGLISH***  ***Students mix and talk informally with peers, teachers and known adults. They give short talks and interact effectively in the classroom and in groups. Students listen with attentiveness to follow simple instructions and ask relevant questions. They express ideas clearly, demonstrating an emerging awareness of how people use spoken language for different purposes.***  ***They explore the way familiar spoken texts are constructed and the features of these texts.***  ***Students develop reading, viewing and comprehension skills and strategies using context , grammar, word usage and phonics in short predictable printed texts on familiar topics. They recognise, discuss and respond to the different kinds and purposes of various written and visual texts. Students explore and identify some language features of written and visual texts. Students write with an increasing awareness of the nature, purpose and conventions of written language.***  ***They produce simple texts that demonstrate an awareness of the basic grammar and punctuation needed. Students know and use letters and sounds of the alphabet to attempt to spell known words and use most lower and upper case letters appropriately to construct sentences. Students explore the use of computer technology to construct texts.***  ***The interdependence of science and literacy is demonstrated throughout the unit when students participate in discussions and use talk to: inquire, report on observations, clarify understanding and reflect on experience. The use of gestures and oral, written and visual language to relate science to students’ personal worlds is another important aspect of this unit.***  ***The project component will integrate with the literacy focus- farms- natural/man made resources/products.*** |

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| **Preparing the Learning Environment:**   * **Prepare display board headings.** * **Word walls- bend cold container design flat fluffy hard long magnet materials metal natural objects plastic prickly properties rough round shape sharp shiny short size smooth soft waterproof weight water** * **Picture maps** * **Library resources / texts \*Smartboard sites** | | |
| **Resources:**   * **Library. Shared readers-BIG book-** * **New Science and Technology Book. K. Tess and Tony Boyle** * **Science and Technology K-6 Syllabus and Support Document.** * **Science and tech- Excell-Clutterbuck** * **Photos of the immediate environment.** * **Materials for the design and make task.** * **Primary Science Book A. Sorting materials RIC Publications** * **What’s it made of ?. Primary Connections** | | |
| **Initiating the Unit:**   * **Introduce questions and resources** * **Introduce generic skills** * **Find out what the children already know and what they want to find out** | | |
| ICT | **Aboriginal perspective** | **QL- Quality learning tool** |

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| **Inquiry Question: 1. What are materials? Observe and describe some examples of everyday materials in our school environment?**  **Why are some materials suited for certain things?** | | | **Duration:**  **4 weeks** | | | **Weeks:**  **1-4** |
| **TEACHING & LEARNING EXPERIENCES:** | **Planned Observation** | **Product Analysis** | | **Teacher Conference** | **Assessment Product** | **Outcomes/**  **Generic**  **Skills** |
| **Tuning In:**  **Read big book- text focusing on natural and man-made materials. Discuss.**  **Show the students various materials/objects from class room, and as a group, sort them into natural materials and ‘man’ (person) made materials. Use a feely bag and hoops for sorting into two groups**  **Establish. “What’s it made of?” board- NATURAL/ ARTIFICIAL/ BOTH- using pictures and encourage students to add to it through the unit.**  **Brainstorm (QL) a list of words to begin a word bank and add to it throughout the unit. Start a word wall.-see words above** | **X** |  | |  | **Through discussion, share ideas and questions about objects**  **Science journal entries**  **Observation records** | **Communication**  **Expression** |
| **Finding Out :**  Go for a school walk…  **• predict what objects they might see in the school environment**  **•walk around the school area and identify, describe and discuss the objects in the school environment.**  **Worksheet= Describing objects –Primary Science A- p 43** | **X** |  | |  |  | **Research**  **Communication** |
| **Sorting Out**  **Discuss what we saw on our walk. Use concept map or lotus diagram to sort things. (QL)** or **Have them list and/or draw the materials under the headings:**   * **Natural** * **Artificial** * **Both**   Let’s make a map  **• contribute to a class picture map of the school environment**  **•use sequencing to draw their own picture map of the school environment.**  **Describe an object and the material(s) that it is made of**  **• use the class picture map to locate and observe an object in the school environment**  **•use descriptive language to share observations about objects and what they are made of.**  **Worksheet-Resource Sheet 1 Primary Connections** |  | **X** | |  | **Student Responses**  **Table**  **Mapping**  ‘Tell me about it’ (Resource sheet 1)  Science journal entries | **Research**  **Communication**  **Cooperation** |
| **Making Connections**  **Activity 1**  **Play a version of ‘eye spy’ with the students in which you focus on the material i.e. “I spy with my little eye, something made of…” As the game is played, list all of the materials mentioned on the board.**  **Ask the students to suggest reasons why a particular object is made from a certain material. E.g.: Q: Why are windows made from glass?**  **A: So we can see through them Q: Why are the doorframes metal A: To provide strength**  **Activity 2 (lesson 4 p 20 Primary connection)**  **Analysing properties of materials.**  **Using labels- Collect small objects- pops ticks bread tags, straws, paper clips cotton wool buttons**  **Activity 3 Explore natural materials**  **List in classroom eg; wood- desk tops cupboards rulers door wool jumpers curtains etc. Worksheet p 8 Science and Tech- Clutterbuck**  **Explore the uses made by Aboriginal people and other cultures of natural materials-Discuss importance of natural materials – including recycling- damage to environment when we obtain them.** | **X**  **X** | **X**  **X** | | **X** | **Class discussions**  **Labels – (resource sheet 2)**  **What’s it made of ?(resource sheet 3)** | **Research**  **Communication** |
| **Going Further**  **Explain to the students that they are to pretend that they are builders and they are going to build a new classroom for the school. Their job is to consider what the classroom will look like and what materials would be best to use. Draw/ build (use blocks/cellophane) etc a new classroom and label materials used.**  **With a partner, the students discuss ideas and then draw/build a picture of the new classroom. They label the objects in the room and record the materials used. E.g.: floor – carpet; wet area – tiles. Go for walk to new building areas at St Mary’s- discuss materials used.** |  |  | |  | Class  discussions  Constructed objects | **Questioning**  **Thinking Critically**  **Research** |
| **Reflecting and Acting**  **Identify and describe the properties of materials used in their classroom project- observe and discus with pairs their different classroom designs**   * **explain why they selected the materials for their project.** * **share and compare their ideas about the properties of materials- density texture flexibility hardness elasticity strength transparency opacity reflectivity.** * **reflect on their learning during the unit- Multi voting-Hot dotting(QLA)** **- What do you think are the most important properties? 5 why’s (QLA)** | **X** | **X** | |  | **Student Responses**  Discussion about objects and properties of materials  Science journal entries  Placement of labelled  self-adhesive dots | **Communication**  **Thinking Critically** |

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| **Inquiry Question: 2. What ways do we depend on the earth for natural materials and products? – Where does milk come from?**  **(WEEK 5)** | | | | **Duration:**  **3 weeks** | | | **Weeks:**  **5-8** |
| **TEACHING AND LEARNING EXPERIENCES** | **Planned Observation** | **Product Analysis** | **Teacher Conference** | | **Assessment Product** | **Outcomes/**  **Generic**  **Skills** | |
| **Tuning In:**  **Brainstorm: products we use everyday which have its source from nature- w/sheet P19 Nature &us Excell S & T** | **X** |  |  | | **Student Responses** | **Communication** | |
| **Finding Out:**  **Show students a carton of milk. Ask them “Where do you think this milk came from?” (Cow). Ask them: “How did it get from the cow to the milk carton?” Record ideas in the form of a flow chart(QL)** |  |  |  | | **Student Responses**  **List** | **Communication**  **Research** | |
| **Sorting Out:**  **Read a text/ or website explaining the milk process. Record each step on a large sheet of paper and compare the steps to the ones suggested by the class. Discuss.  http://www.moomilk.com/** | **X** | **X** |  | | **Temp. tool** | **Cooperation** | |
| **Making Connections:**  **Distribute a worksheet on which the pictures of the milk process are jumbled up. Explain to the students that they are to cut out the pictures and sequence them correctly so that they show the process in which milk gets from the cow to the carton. Remove the chart from view and encourage the students to work with a partner to complete the task.** | **X** |  |  | |  | **Responsibilty** | |
| **Going Further:**  **Organise a trip to a farm or dairy to view the above steps. Take photographs of each step in the process and display with the students’ tasks. Share information text and record steps in the milk process.**  **Sequence the steps in the production of milk.** |  |  |  | |  | **Thinking** | |
| **Reflecting and Acting:**  **Discuss the by products of milk and is there any waste.**  **Reflect on the farm excursion- natural products and materials- list.**  **Discuss ways we can protect and conserve these resources.**  **Worksheet: Caring for the environment- building on Nature p 9 Science and Tech-Clutterbuck** | **X** |  |  | | **Student Responses** | **Communication**  **Responsibility** | |

**Evaluation:**

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**Word wall**

**bend cold container design flat fluffy hard long magnet materials metal natural objects plastic prickly properties rough round shape sharp shiny short size smooth soft waterproof weight water**