LEARNING AREA: TECHNOLOGY

LESSON PLAN	CONTENT IN CONTEXT	GRADE 9
TERM _____	**PROCESSING** Demonstrates knowledge and understanding of how materials can be processed (e.g. galvanised, frozen, dried, painted, varnished, electroplated) to change or improve properties (life-span), and how recyclable materials can be re-manufactured.	**DURATION** **8 – 11 weeks**

Statement of the problem

You are going camping for five days with a group from your school. You don't have any way of keeping your food cold while you are away. Design and make a food product that will stay fresh for the five days while you are camping.

Selected LO's and AS's	Teaching and Learning Activities	Details of Assessment Forms, Methods and Tools	
LO 1: Technological processes and skills **AS 1: Investigates** **AS 2: Design** **AS 3: Makes** **AS 4: Evaluates** **AS 5: Communicates** **LO 2: Knowledge and understanding** **AS 3: Processing**	**Introduction:** Teacher explains the need for materials to be preserve in order to make it suitable for specific jobs. Different methods are used for the preservation of different materials. Finishing off material can increase the lifespan of a material or a product. Make sure the learners understand what a lifespan is. **Activity 1: Preserving materials – metals** Try to establish what your learners remember about materials from previous grade. Remind them that materials are classified into two large groups – natural and synthetic. Learners are presented with illustrations of metals and in what form they are available. Discuss the different metals with the learners, looking at the explanatory illustrations showing how the materials are available. Learners, in groups, conduct an experiment to test the effect of a preservation material. The learners must write down why they are doing the test, what they re doing, record their results and make a conclusion.	**Form** **Method** **Tool**	Research/ Investigation Educator Rubrics/ Checklist
	Activity 2: Electroplating Teacher explains that electroplating is a form of preservation where electricity is used in the coating process. The learners work in groups and conduct the experiment to plate an object, for example a spoon or a nail.	**Form** **Method** **Tool**	Investigation/ Assignment Educator Rubrics/ Checklist

Selected LO's and AS's	Teaching and Learning Activities	Details of Assessment Forms, Methods and Tools	
LO 3: Technology, Society and Environment **AS 1: Indigenous Technology and Culture** **AS 2: Impact of Technology**	**Activity 3: Preserving materials – wood** This section about wood is to build up the learner's knowledge of materials. The important things to discuss with the learners are: • that wood is a plant material so it is natural • that wood is available to use in its pure form or it can be processed i.e. available as solid wood or as chipboard, veneered board etc. The teacher explains and demonstrates the different methods of preserving wood and the learners complete the case study on their own.	**Form** **Method** **Tool**	Case Study Educator Rubric
	Activity 4: Preservation of food Teacher discusses the main reasons for the preservation of food: • to provide food security • to add variety to diets • to prevent products from decaying. References are made to the different methods of food preservation with examples. Learners complete the case study by answering questions base on food processing	**Form** **Method** **Tool**	Case Study Educator Rubrics
	Activity 5: Project Brief: You are going camping for five days with a group from your school. You don't have any way of keeping your food cold while you are away. Design and make a food product that will stay fresh for the five days while you are camping.	**Form** **Method** **Tool**	Project Educator Rubrics

Resources: five plastic cups, water, grease, lacquer, five nails, salt, paint; Plastic or glass container (not a metal as this will interfere with the process), 2 x 1,5 V cell, Coil of copper wire, Connecting wires, Metal to be electroplated with copper (nail, spoon, etc)., Plastic spoon, Copper sulphate(can be bought from pharmacy

Barriers to learning: Example: access to all the necessary resources; learners background knowledge; etc.

Expanded opportunities and reflections: Refer to Teacher's Guide For The Development of Learning Programmes, page 45.