FIRST TERM
WEEKLY LESSON NOTES
WEEK 8

Week Ending: 24-11-2023	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Materials For Production	
Class: B9	**Class Size:**	**Sub Strand:** Smart & Modern Materials	
Content Standard: B9.2.3.1 Demonstrate understanding of using smart and modern materials for making products/artefacts	**Indicator:** B9.2.3.1.1: Discuss reasons for using smart and modern materials for making products/artefacts		**Lesson:** 1 of 3
Performance Indicator: Learners can discuss the reasons for using smart and modern materials for making products or artefacts.		**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation	
Reference: Career Technology Curriculum Pg. 87			
New words: Resistant, Materials, Artefacts, Properties, modern, smart			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin the lesson with a "Guess the Material" activity. Show learners pictures of various everyday objects (e.g., a smartphone, a car bumper, a water bottle), and ask them to guess what materials these objects are made of. Discuss their assumptions and initial thoughts. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Recap the learners' knowledge about smart and modern materials and their unique properties. Discuss examples of these materials, such as memory metals, shape memory polymers, and materials with self-healing properties. Introduce the concept of compliant and resistant materials. Provide a table with two columns: "Smart and Modern Materials" and "Compliant and Resistant Materials." In groups, have learners brainstorm and list uses of each type of material and present their findings in the table. Lead a class discussion on the advantages of using smart and modern materials in artefact production. Encourage learners to consider factors like improved functionality, sustainability, and resource efficiency.	Samples of different smart and modern materials

	Present a real-world problem or challenge where the use of smart and modern materials would provide a solution. In small groups, have learners brainstorm and present their ideas on how smart materials can address the problem. <u>Assessment</u> 1. What are smart and modern materials, and what are their unique properties? 2. In the table comparing material uses, can you identify uses for both smart and modern materials as well as compliant and resistant materials? 3. Why might a designer choose to use smart and modern materials over compliant or resistant materials in the production of artefacts?	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

Week Ending: 24-11-2023	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Materials For Production	
Class: B9	**Class Size:**	**Sub Strand:** Smart & Modern Materials	
Content Standard: B9.2.3.1 Demonstrate understanding of using smart and modern materials for making products/artefacts	**Indicator:** B9.2.3.1.2: Demonstrate techniques for making prototypes/ projects to solve problems in the environment using smart and modern materials		**Lesson:** 2 of 3
Performance Indicator: Learners can demonstrate techniques for making prototypes or projects that solve environmental problems using smart and modern materials.		**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation	
Reference: Career Technology Curriculum Pg. 87			
New words: Prototypes, Materials, Properties, Safety, Tools, Techniques			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a "Brainstorming Environmental Problems" activity. In small groups, have learners identify and discuss environmental issues or problems in their community. Encourage them to share their thoughts and ideas. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Facilitate a discussion on the environmental problems learners identified in their community during the starter activity. Encourage learners to share their insights and reasons for selecting these problems. Provide samples or examples of smart and modern materials. Discuss their unique properties and how they can be applied to solve environmental problems. Share a collection of inventions and techniques that use smart and modern materials to address environmental challenges. Discuss real-world examples to inspire learners. In small groups, assign each group one of the environmental problems identified in the community. Encourage learners to brainstorm and design a prototype or project that uses smart and modern materials to address the problem. <u>Assessment</u>	Samples or examples of smart and modern materials.

	1. What environmental problems did your group identify in the community, and why did you choose them? 2. How do smart and modern materials offer unique solutions to environmental challenges? 3. Can you describe a real-world invention or technique that uses smart and modern materials to address an environmental problem? 4. In your group project, explain the prototype or project you designed to address the assigned environmental problem and the smart and modern materials you used.	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

Week Ending: 24-11-2023	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Smart & Modern Materials

Content Standard: B9.2.3.1 Demonstrate understanding of using smart and modern materials for making products/artefacts	**Indicator:** B9.2.3.1.2: Demonstrate techniques for making prototypes/ projects to solve problems in the environment using smart and modern materials	**Lesson:** 3 of 3

Performance Indicator: Learners can demonstrate techniques for making prototypes or projects that solve environmental problems using smart and modern materials.	**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation

Reference: Career Technology Curriculum Pg. 87

New words: Prototypes, Materials, Properties, Safety, Tools, Techniques

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a "Problem Exploration" activity. Present learners with a scenario involving an environmental issue in their local community. Ask them to brainstorm possible solutions using smart and modern materials. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Share a scenario or real-life environmental challenge in the community. Encourage learners to discuss the problem and its impact. Provide samples or examples of smart and modern materials. Discuss their unique properties and how they can be applied to address environmental issues. Demonstrate the processes involved in creating prototypes or projects using smart and modern materials. Explain how to plan, design, and construct solutions for the chosen environmental problem. In small groups, assign each group an environmental problem to address. Provide learners with the necessary materials to create artefacts or products using smart and modern materials. Set up a display area in the classroom or school where learners can showcase their artefacts or products. Invite classmates and teachers to appraise the solutions. <u>Assessment</u>	Samples or examples of smart and modern materials.

	1. Describe the process you used to create your prototype or project to solve the assigned environmental problem. 2. How did the appraisal of your artefact/product contribute to your understanding of creating environmental solutions with smart and modern materials?	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	