LESSON PLANS FOR JUNIOR HIGH SCHOOLS

CAREER TECHNOLOGY

BASIC 9

TERM 1

- Weekly forecast
- Detailed lesson plans

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FIRST TERM CAREER TECHNOLOGY LESSON NOTES – BASIC 9

SCHEME OF LEARNING – TERM 1

WEEKS	STRAND	SUB STRANDS	CONTENT STANDARD	INDICATORS	RESOURCES
1	Health & Safety	Personal Hygiene and Food Hygiene	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
2	Health & Safety	Personal Hygiene and Food Hygiene	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
3	Health & Safety	Personal, Workshop and Food Laboratory Safety	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
4	Health & Safety	Personal, Workshop and Food Laboratory Safety	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
5	Health & Safety	Environmental Health	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
6	Materials For Production	Compliant Materials	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
7	Materials For Production	Resistant Materials	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
8	Materials For Production	Safety and Modern Materials	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
9	Tools, Equipment & Processes	Food Commodities (Animal and Plant Sources)	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
10	Tools, Equipment & Processes	Measuring and Marking Out	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
11	Tools, Equipment & Processes	Measuring and Marking Out	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures
12	Tools, Equipment & Processes	Cutting / Shaping	B9. 3.3.1	B9. 3.3.1.1	Charts & Pictures

WEEK 1

Week Ending:	**Day:**	**Subject:** Career Technology	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal Hygiene And Food Hygiene	
Content Standard: B9.1.1.1 Demonstrate skills that relate to personal and food hygiene to self	**Indicator:** B9.1.1.1.1 Practice good grooming	**Lesson:** 1 of 2	
Performance Indicator: Learners can understand the concept of good grooming and relate it to personal hygiene.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 78			
New words: Grooming, Hygiene, Appearance, Self-care			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Display before-and-after photos of individuals – one ungroomed and one groomed. Ask learners to describe the differences and discuss their initial reactions to each photo. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Lead a class discussion defining 'good grooming' and 'personal hygiene.' Ask probing questions to ensure understanding. *E.g.: Good grooming means practising good hygiene techniques and general composure.* Use visual aids, videos, or illustrations where necessary to further illustrate the concept. Divide learners into small groups. Ask each group to brainstorm and list good grooming practices they are aware of or practice daily. *E.g., proper sitting, proper walking, proper talking, proper eating manners and wearing neat clothes.* After the discussion, have a representative from each group share their findings. <u>Assessment</u> 1. Define good grooming in your own words. 2. How is personal hygiene related to good grooming? 3. Name two good grooming practices you learned about today. 4. Why do you think it's essential to maintain a good grooming routine?	Pictures and charts of food

PHASE 3: **REFLECTION**	Emphasize the role of good grooming in personal health, well-being, and presentation. Encourage learners to reflect on their grooming habits and consider implementing any practices they've learned. 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:	**Day:**	**Subject:** Career Technology	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal Hygiene And Food Hygiene	
Content Standard: B9.1.1.1 Demonstrate skills that relate to personal and food hygiene to self	**Indicator:** B9.1.1.1.1 Practice good grooming	**Lesson:** 2 of 2	
Performance Indicator: Learners can recognize the importance of good grooming and learn to demonstrate appropriate grooming practices.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 78			
New words: Routine, Self-esteem, Cleanliness, Presentation			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Start with a fun quiz or poll asking learners about their daily grooming practices, like "How often do you brush your teeth?" or "How often do you change your socks?" This will engage them and set the context for the lesson. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Divide learners into groups. Each group discusses the broader implications of good grooming – its impact on health, self-esteem, social interactions, and opportunities. *E.g., Enhances one's personality and interpersonal relationships* Conclude with a class-wide discussion, collating thoughts from each group. Organize a few simple demonstration stations – for instance, correct hand washing technique, proper teeth brushing method, or how to comb hair effectively. Rotate learners through each station, allowing them to practice and understand each grooming practice. Invite a local professional, perhaps a dentist or hairdresser, to provide expert demonstrations if feasible. Write short messages on good grooming and tag them in and around the classroom, in groups. <u>Assessment</u> 1. Why is good grooming essential for personal well-being? 2. How can neglecting good grooming practices impact one's social interactions? 3. Describe one grooming practice you learned today and explain its importance. 4. How does good grooming influence your self-presentation and confide	Pictures and charts of food

PHASE 3: **REFLECTION**	Sum up the lesson by emphasizing the significance of regular grooming routines for both personal and social reasons. Encourage learners to reflect on their routines and consider areas for improvement. Take feedback from learners and summarize the lesson. Ask learners how the lesson will benefit them in their daily lives.	

WEEK 2

Week Ending:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal Hygiene And Food Hygiene	
Content Standard: B9.1.1.1 Demonstrate skills that relate to personal and food hygiene to self	**Indicator:** B9.1.1.1.2: Observe appropriate food hygiene practices.		**Lesson:** 1 of 3
Performance Indicator: Learners can understand the basic concept of food hygiene and recognize its importance in preventing illnesses.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 78			
New words: Hygiene, Contamination, Bacteria, Sanitize			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show learners pictures of two kitchens: one clean and the other visibly dirty. Ask them which kitchen they would feel safer eating food from and why. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Introduce the term 'food hygiene' and explain its importance in daily life. Highlight the risks associated with poor food hygiene, like food poisoning, contamination, and the spread of diseases. Divide learners into small groups. Provide each group with a list of scenarios or practices related to food handling and preparation. Some can be appropriate, while others are not. Ask each group to discuss and categorize each scenario as "safe" or "unsafe" based on their current knowledge. Outline the essential food hygiene practices. This could include washing hands, using separate cutting boards for raw and cooked foods, ensuring food is stored at the right temperature, etc. Compare these practices with the scenarios from the group activity, correcting any misconceptions. <u>Assessment</u> What is meant by the term "food hygiene"? Why is it essential to practice good food hygiene? Name two potential risks associated with poor food hygiene. Describe one crucial food hygiene practice you learned today.	Pictures and charts of food

PHASE 3: **REFLECTION**	Emphasize the individual responsibility each learner has in ensuring food hygiene, not just in a professional setting like a restaurant, but also at home. Challenge them to be more mindful and observe these practices in their daily life. 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:	**Day:**	**Subject:** Career Technology (HE)
Duration: 60MINS		**Strand:** Health & Safety
Class: B9	**Class Size:**	**Sub Strand:** Personal And Workshop Safety

Content Standard: B9.1.2.1 Demonstrate skills that relate to personal, workshop and laboratory safety	**Indicator:** B9.1.2.1.1: Describe procedures for reporting accidents and unsafe practices in school and in the laboratory/ workshop	**Lesson:** 2 of 3

Performance Indicator: Learners can understand the importance of safety in the food/sewing laboratory and know the procedures to report any accidents or unsafe practices they observe.	**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:

Reference: Career Technology Curriculum Pg. 79

New words: Safety Protocol, Incident Report, Hazard, Preventative Measures

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Display pictures of a few scenarios in the food/sewing laboratory - some depicting safe practices and others showcasing unsafe ones. Ask learners: "Identify which practices are unsafe and explain why." Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Introduce the concept of safety in a food/sewing lab. Why is it so crucial? Discuss common hazards in the laboratory setting. Cleaning Agents: Many cleaning substances are toxic if ingested and can be harmful if they come in contact with the skin or eyes. • *Gas Leaks: Natural gas or propane used for cooking can be flammable and hazardous if leaked.* • *Sharp Objects: Knives, graters, and other cutting tools can cause cuts.* • *Hot Surfaces & Liquids: Stoves, ovens, boiling liquids, or hot oil can cause burns.* • *Electrical Equipment: Risk of electric shock from improperly grounded or damaged appliances.* • *Slips, Trips, and Falls: Wet floors, scattered ingredients, or clutter can lead to accidents.* • *Heavy Objects: Dropping or improperly handling heavy pots and appliances can lead to injuries.* • *Spoiled Food: Consuming or handling spoiled or contaminated food can lead to foodborne illnesses.* • *Raw Ingredients: Raw meat, fish, and certain vegetables can sometimes contain pathogens that can cause illness if not handled or cooked properly.* Outline the procedures for reporting accidents or unsafe practices. Emphasize the importance of immediate reporting for everyone's safety.	Pictures and charts of food

	• ***Immediate Action**: Ensure everyone's safety and administer first aid if needed. If severe, seek medical help.* • ***Notify Supervisors**: Inform the person in charge promptly.* • ***Isolate Hazard Area**: Mark or section off any dangerous areas resulting from the accident.* • ***Document the Incident**: Complete an accident report detailing the event, individuals involved, injuries, and corrective actions taken.* • ***Photographic Evidence**: Take photos of the accident scene if possible.* • ***Investigation**: Determine the cause of the incident by reviewing procedures and interviewing witnesses.* • ***Report Upwards**: Notify higher organizational levels or regulatory bodies for severe incidents.* • ***Implement Safety Measures**: Based on the investigation's findings, introduce measures to prevent future occurrences.* • ***Conduct Safety Audits**: Regularly check kitchen practices to ensure safety.* • ***Provide Feedback**: Inform staff about the incident's details and the subsequent actions taken.* Role-play a scenario where a learner notices an unsafe practice and goes through the reporting process. <u>Assessment</u> Why is it essential to report an unsafe practice in the food/sewing lab immediately? What is one common hazard in a food/sewing laboratory? What is the first thing you should do if you notice a spill or accident in the lab? Who should you report to if you notice an unsafe practice in the lab?	
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:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal And Workshop Safety	
Content Standard: B9.1.2.1 Demonstrate skills that relate to personal, workshop and laboratory safety	**Indicator:** B9.1.2.1.1: Describe procedures for reporting accidents and unsafe practices in school and in the laboratory/ workshop		**Lesson:** 3 of 3
Performance Indicator: Learners can understand the unique risks of a blockwork site and the importance of safety protocols, as well as the procedures for reporting any unsafe practices		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 79			
New words: Construction Safety, Safety Gear, Site Supervisor, Hazard Assessment			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show a brief video clip of a busy construction site, preferably with some clear safety violations. Ask learners: "What did you observe? Which practices seemed unsafe to you?" Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Discuss the inherent risks of a blockwork site: heavy machinery, falling objects, etc. Outline the significance of personal protective equipment (PPE) on the site. • *Safety Barrier: PPE shields workers from various environmental hazards, from chemicals to physical injuries.* • *Decreases Incidents: Using PPE reduces workplace injuries and illnesses.* • *Legal Compliance: PPE ensures adherence to occupational health and safety regulations.* • *Encourages Safe Work Culture: Regular PPE use fosters a sense of safety and responsibility among workers.* • *Economic Benefits: Investing in PPE minimizes costs associated with accidents, like medical bills and legal penalties.* • *Boosts Morale: Workers feel valued and secure, leading to better focus and productivity.* • *Customizability: PPE can be tailored to address specific risks for varied tasks.* • *Flexibility: PPE can be adjusted based on changing risk conditions on site.* Describe the procedures for reporting any accidents or unsafe practices on a blockwork site, emphasizing immediate reporting. • ***Immediate Action**: Ensure everyone's safety and administer first aid if needed. If severe, seek medical help.* • ***Notify Supervisors**: Inform the person in charge promptly.*	Pictures and charts of food

	• ***Isolate Hazard Area**: Mark or section off any dangerous areas resulting from the accident.* • ***Document the Incident**: Complete an accident report detailing the event, individuals involved, injuries, and corrective actions taken.* • ***Photographic Evidence**: Take photos of the accident scene if possible.* • ***Investigation**: Determine the cause of the incident by reviewing procedures and interviewing witnesses.* • ***Report Upwards**: Notify higher organizational levels or regulatory bodies for severe incidents.* • ***Implement Safety Measures**: Based on the investigation's findings, introduce measures to prevent future occurrences.* • ***Conduct Safety Audits**: Regularly check kitchen practices to ensure safety.* • ***Provide Feedback**: Inform staff about the incident's details and the subsequent actions taken.* Role-play scenarios where learners identify and report safety violations on a hypothetical construction site. <u>Assessment</u> Why is wearing PPE crucial on a blockwork site? Name one potential danger unique to a blockwork or construction site. If you observe a colleague not wearing safety gear on site, what should you do? Who is typically responsible for overseeing safety on a blockwork site?	
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 3

Week Ending:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal And Workshop Safety	
Content Standard: B9.1.2.1 Demonstrate skills that relate to personal, workshop and laboratory safety	**Indicator:** B9.1.2.1.2: Use appropriate personal protective equipment when working		**Lesson:** 1 of 2
Performance Indicator: Learners can identify the various personal protective equipment used in the kitchen and sewing laboratory.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 80			
New words: Safety Protocol, Incident Report, Hazard, Preventative Measures			

<table>
<tr><th>Phase/Duration</th><th>Learners Activities</th><th>Resources</th></tr>
<tr><td>PHASE 1:
STARTER</td><td>Display pictures of people working in different environments (e.g., a chef, a construction worker, a scientist in a lab) where some of the PPE items are clearly missing.

Ask students to identify what's missing in each picture.

Share performance indicators with learners.</td><td></td></tr>
<tr><td>PHASE 2: NEW LEARNING</td><td>Ask learners what personal protective equipment they think should be worn in a kitchen or sewing laboratory setting.

Show pictures or samples of PPE used in the kitchen laboratory (e.g., gloves, aprons, safety goggles).

Divide learners into small groups and have them identify and list different types of PPE used in the kitchen or sewing laboratory.

Kitchen PPEs:
<table>
<tr><th>PPE</th><th>Uses</th></tr>
<tr><td>Aprons</td><td>Protects clothing and skin from spills and splatters.</td></tr>
<tr><td>Oven Mitts or Gloves</td><td>Protects hands from hot surfaces and objects.</td></tr>
<tr><td>Chef's Hat or Hair Net</td><td>Prevents hair from falling into food.</td></tr>
<tr><td>Non-Slip Shoes</td><td>Reduces the risk of slipping on wet or greasy floors.</td></tr>
<tr><td>Cut-resistant Gloves</td><td>Helps in preventing cuts while using knives or slicers</td></tr>
<tr><td>Face Shields or Goggles</td><td>Useful when handling hot oils or acidic substances to prevent splashes</td></tr>
<tr><td>Ear Plugs</td><td>In commercial kitchens with loud equipment, it helps in noise reduction</td></tr>
</table></td><td>Pictures and charts of food</td></tr>
</table>

Sewing Laboratory PPEs

PPE	Uses
Thimble	Protects the finger from needle pricks.
Safety Glasses	Protects eyes from flying debris when cutting fabrics or using machinery.
Dust Masks	Protects from inhaling fabric or fiber dust, especially when cutting or handling certain materials.
Ear Plugs	For use in noisy environments with loud sewing machines or other equipment.
Finger Guards	Used with some sewing machines to protect fingers from moving parts.
Anti-vibration Gloves	Useful when working with vibrating machinery for extended periods
Aprons	Protects clothing from dirt, dye, or any other material.

Discuss the different types of PPE as a class, ensuring all learners understand their purpose and how they should be used.

Discuss the potential hazards encountered in a kitchen laboratory (e.g., sharp utensils, hot surfaces, chemicals).

Explain the importance of wearing PPE to protect against these hazards.

Engage learners in a class discussion, asking them to share their thoughts on why it is important to wear PPE in the kitchen laboratory.

Demonstrate the proper use of different types of PPE, such as putting on gloves or tying an apron.

Allow learners to practice using PPE in pairs or small groups, ensuring they follow proper procedures.

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:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal And Workshop Safety	
Content Standard: B9.1.2.1 Demonstrate skills that relate to personal, workshop and laboratory safety	**Indicator:** B9.1.2.1.2: Use appropriate personal protective equipment when working		**Lesson:** 2 of 2
Performance Indicator: Learners can identify the various personal protective equipment used in the block work/woodwork workshop		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 80			
New words: Safety Protocol, Incident Report, Hazard, Preventative Measures			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Display pictures of people working in different environments (e.g., a chef, a construction worker, a scientist in a lab) where some of the PPE items are clearly missing. Ask students to identify what's missing in each picture. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Ask learners what personal protective equipment they think should be worn in a block work/woodwork workshop setting. Show pictures or samples of PPE used in the block work/woodwork workshop (e.g., safety goggles, safety gloves, ear protection). Divide learners into small groups and have them identify and list different types of PPE used in the block work/woodwork workshop. Discuss the different types of PPE as a whole class, ensuring all learners understand their purpose and how they should be used. Woodwork Workshop PPEs: *1. Safety Glasses or Goggles: To protect eyes from sawdust, wood chips, and splinters.* *2. Ear Protection (Earplugs or Earmuffs): Woodworking machinery can be loud and can cause hearing damage over time.* *3. Dust Masks or Respirators: To prevent inhalation of wood dust and other particulates.* *4. Safety Shoes or Boots: Preferably steel-toed to protect feet from heavy objects or accidental tool drops.* *5. Gloves: To protect hands from splinters, although they shouldn't be worn around rotating machinery due to entanglement risks.* *6. Apron: To keep clothes clean and prevent them from getting caught in machinery.* *7. Push Stick: A safety tool used to push small pieces of wood through saws, keeping fingers away from blades.* Blockwork Workshop PPEs:	Pictures and charts of food

	1. Safety Glasses or Goggles: To protect eyes from flying debris, dust, or mortar. *2. Safety Shoes or Boots: Preferably steel-toed, to protect feet from dropped blocks or tools.* *3. Heavy-duty Gloves: To protect hands from abrasion, sharp edges, and wet cement or mortar.* *4. Hard Hat: Essential when there's a risk of falling objects or when working under scaffolding.* *5. Dust Mask or Respirator: Especially important when cutting or shaping blocks to prevent inhalation of dust.* *6. Knee Pads: Useful when laying blocks at low levels to protect knees from hard and rough surfaces.* *7. High Visibility Vest: Useful in larger construction sites where visibility is crucial to avoid accidents*. Discuss the potential hazards encountered in a block work/woodwork workshop (e.g., flying debris, sharp tools, loud noise). Explain the importance of wearing PPE to protect against these hazards. Engage learners in a class discussion, asking them to share their thoughts on why it is important to wear PPE in the block work/woodwork workshop. Demonstrate the proper use of different types of PPE, such as wearing safety glasses or putting on ear protection. Allow learners to practice using PPE in pairs or small groups, ensuring they follow proper procedures. Design and make personal protective equipment using compliant and resistant materials (fabrics) in groups. E.g., Nose mask, gloves, apron, cap, goggles	
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 4

Week Ending:	**Day:**	**Subject:** Career Technology	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Personal And Workshop Safety	
Content Standard: B9.1.2.1 Demonstrate skills that relate to personal, workshop and laboratory safety	**Indicator:** B9.1.2.1.3: Maintain safe working environments		**Lesson:** 1 of 2
Performance Indicator: Learners can discuss and reflect on the significance of workplace safety in groups and demonstrate or role-play safety practices, emphasizing the tagging of faulty equipment.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 81			
New words: Dangers, Risks, Threats, Well-being.			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show pictures of both safe and unsafe working environments. Ask learners, "What differences do you notice between these two environments? How would you feel working in each space?" Allow learners to share their observations and feelings. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Ask learners if they can define a "safe working environment." Note their definitions on the board. A safe working environment ensures that employees and others have a space free from dangers, risks, and threats to their well-being." Divide the learners into small groups and provide each group with chart paper and markers. Ask each group to discuss and list down reasons for "Why is it essential to keep the working environment safe?". E.g., To reduce/prevent accidents Display different safety signs and symbols. Discuss the importance of each. Introduce the concept of tagging faulty equipment. Explain that this is a method to signal that a piece of equipment is unsafe to use. Role-play a scenario where a student identifies a faulty piece of equipment, tags it, and reports it. Ask other learners to join and role-play similar scenarios or other safety practices.	Safety signs and symbols Sample "faulty equipment" tags

	Assessment 1. Why is it essential to maintain a safe working environment? 2. Name two key words from today's lesson and explain their importance in workplace safety. 3. Why is tagging faulty equipment important in a workplace? 4. How do safety signs and symbols contribute to a safer working environment?	
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. Project work: Design posters to create awareness on the need to maintain a safe working environment, and post them around the school. Note: School Health Education Programme (SHEP) clubs to educate other learners, cooks, food vendors, and staff of the school on food hygiene practices. The school should form a SHEP club if there is none in the school.	

Week Ending:	**Day:**	**Subject:** Career Technology (HE)
Duration: 60MINS		**Strand:** Health & Safety
Class: B9	**Class Size:**	**Sub Strand:** Environmental Health

Content Standard: B9.1.3.1 Demonstrate understanding and practice of environmental health in the school/home	**Indicator:** B9.1.3.1.1: Discuss the causes and prevention of poor sanitation in the school/home/ community/site/ workshop/ laboratory.	**Lesson:** 2 of 2

Performance Indicator: Learners can identify and discuss the root causes of poor sanitation in workshops and laboratories.	**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:

Reference: Career Technology Curriculum Pg. 82

New words: Contamination, Negligence, Hazards, and Waste

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show learners pictures of a messy workshop/laboratory and a clean one. Ask, "Which environment would you feel safer and more comfortable working in? Why?" Allow a few minutes for discussion. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Divide learners into small groups. Each group discusses potential causes of poor sanitation in a workshop or laboratory setting. *E.g., Littering around, poor disposal of waste, indiscriminate defecation.* Have learners brainstorm and note down their ideas on chart paper. Using the same groups as before, now ask learners to come up with ways to prevent poor sanitation, particularly focusing on the key words discussed. *E.g., Putting bins at vantage points for waste to be put in instead of putting it on the ground.* Have groups present their prevention strategies. Add any critical methods they might have missed, emphasizing regular cleaning schedules, proper disposal of waste, and the importance of personal responsibility. Introduce the project: "The Importance of Cleanliness in Our School and Community." Groups must create a poster, skit, or presentation that emphasizes the significance of maintaining cleanliness in our surroundings. Encourage creativity! Allow time for groups to work on their projects.	Pictures of messy and clean workshops/laboratories Hand sanitizers, gloves, cleaning supplies for demonstration

	At the end of the period or in a subsequent class, let each group present their work. <u>Assessment</u> 1. Name two causes of poor sanitation in workshops or laboratories. 2. How can regular cleaning prevent hazards in these areas? 3. Why is proper waste disposal crucial in a laboratory setting? 4. What role do individuals play in ensuring cleanliness in workshops and laboratories?	
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. Project: Invite an expert from the District Assembly or the Community to assist with the recycling project	

WEEK 5

Week Ending:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Health & Safety	
Class: B9	**Class Size:**	**Sub Strand:** Environmental Health	
Content Standard: B9.1.3.2 Demonstrate understanding of clean energy, and Improved Cookstoves (ICS) and their accompanying fuels	**Indicator:** B9.1.3.2.1: Discuss what is meant by clean energy and improved cookstoves and fuels.	**Lesson:** 2 of 2	
Performance Indicator: Learners can comprehend what is meant by improved cookstoves and cleaner fuels, and recognize their advantages.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 82			
New words: Clean Energy, Renewable, Cookstoves, Emissions			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Display two images side by side: one showing traditional open-fire cooking and the other depicting solar panels or wind turbines. Ask learners: "How do these images relate to energy? What might be the differences in the type of energy they represent?" Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Guide learners to explain what is meant by clean energy. E.g., It is energy produced through means that do not pollute the atmosphere. Have learners identify improved cookstoves and fuels Engage learners to watch pictures and videos on improved cookstoves and fuels and traditional cookstoves and fuels and make comparison of them. Note: Visit the website https://www.ghacco.org for more information. Lead learners to discuss what happens when clean energy is used. E.g., They are more efficient, give off less emission and are safer than the traditional cook stoves or three-stone-fires. Learners in their groups search and present in class, the various improved cookstoves and fuels using ICT tools and other sources. E.g., Gyapa, holy cook, gas stoves, pellets, briquettes, Liquefied Petroleum Gas (LPG). <u>Assessment</u> How does clean energy differ from traditional energy sources?	Pictures of cookstoves

	Why is there a push towards using cleaner fuels in cookstoves? Name one type of improved cookstove and its advantage. What is one significant benefit of transitioning to clean energy?	
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:	**Day:**	**Subject:** Career Technology (HE)
Duration: 60MINS		**Strand:** Health & Safety
Class: B9	**Class Size:**	**Sub Strand:** Environmental Health

Content Standard: B9.1.3.2 Demonstrate understanding of clean energy, and Improved Cookstoves (ICS) and their accompanying fuels	**Indicator:** B9.1.3.2.2: Discuss the benefits of improved cookstoves and fuels.	**Lesson:** 2 of 2
Performance Indicator: Learners can understand the advantages of using improved cookstoves and cleaner fuels and recognize the various types of improved cookstoves and their uses.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:
Reference: Career Technology Curriculum Pg. 83		
New words: Cookstoves, Efficiency, Emissions, Sustainable		

<table>
<tr><td>Phase/Duration</td><td>Learners Activities</td><td>Resources</td></tr>
<tr><td>PHASE 1:
STARTER</td><td>Display pictures of traditional open-fire cooking methods and improved cookstoves.

Ask learners: "What differences do you see between these cooking methods? Why might someone choose one method over the other?"

Share performance indicators with learners.</td><td></td></tr>
<tr><td>PHASE 2:
NEW LEARNING</td><td>Brainstorm the benefits of improved cookstoves and fuels.
Divide learners into small groups and provide each group with a chart paper and markers.

Ask them to brainstorm and jot down the benefits of using improved cookstoves and cleaner fuels. Benefits might include health, environmental impact, efficiency, They save money, protect the cook and people around against illness, etc.

After brainstorming, each group presents their list to the class.

Demonstrate the uses of the following stoves.
E.g. • improved cookstoves and fuels • traditional stoves.
<table>
<tr><th>Stove type</th><th>Description</th><th>Uses</th></tr>
<tr><td colspan="3">Improved Cookstoves</td></tr>
<tr><td>Rocket Stoves</td><td>These stoves are designed with an insulated vertical chimney that ensures complete combustion of fuel. It reduces the amount of smoke and emissions produced.</td><td>They are primarily used for boiling and simmering. Can be used with a variety of biomass fuels including wood and agricultural residues.</td></tr>
<tr><td>Gasifier Stoves</td><td>These stoves use a process called gasification to convert solid biomass into a</td><td>Cooking various dishes, especially in regions where wood or biomass is the primary fuel source.</td></tr>
</table>
</td><td>Pictures of Cookstoves</td></tr>
</table>

	gaseous form before combustion. This process reduces harmful emissions.	
Solar Cookers	Uses the sun's energy to cook food. It can either concentrate sunlight to produce heat or trap sunlight within an insulated box to cook.	Baking, boiling, and simmering food without the need for fuel. Suitable for sunny regions.
LPG (Liquefied Petroleum Gas) Stoves	These stoves run on propane or butane. They produce a clean flame with minimal emissions.	Frying, boiling, simmering, and baking. They're used worldwide for a range of cooking needs and are particularly sought after for their clean and efficient burn.
Traditional Stoves		
Open Hearth or Indoor Open Fire	Essentially a contained open fire inside a dwelling, often without proper ventilation.	Basic cooking tasks but comes with significant health risks due to indoor air pollution.
Charcoal Stoves	Made of metal or clay, these stoves burn charcoal as fuel. While they are more efficient than open fires, they still emit harmful fumes.	Frying, boiling, and other basic cooking tasks. Common in urban areas where wood is less available but charcoal can be purchased.
Clay or Mud Stoves	Made from local materials, these are sometimes an upgrade from the three-stone fire but still emit a lot of smoke.	Boiling, simmering, and other basic cooking tasks. Common in rural parts of many developing countries.
Three-Stone Fire	As the name suggests, it's a basic setup with three stones placed in a triangle, supporting a pot, with an open fire beneath.	General cooking needs. Predominantly used in rural areas due to its simplicity.

Use real cookstoves, models, or pictures to show how each stove operates.

Highlight the specific benefits of each stove type.

	If possible, demonstrate the difference in emissions or fuel efficiency between traditional methods and the improved stoves. In groups, plan and organize a campaign to educate the school and the community on the use and benefits of improved cookstoves. <u>Assessment</u> 1. Why are improved cookstoves better for our health compared to traditional cooking methods? 2. How do improved cookstoves benefit the environment? 3. Name one type of improved cookstoves you learned about today. 4. How can using cleaner fuels be more cost-effective in the long run?	
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. Emphasize the importance of transitioning to improved cookstoves and cleaner fuels, not just for individual health and savings but also for the broader environmental and societal benefits.	

WEEK 6

Week Ending:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Compliant Materials

Content Standard: B9.2.1.1 Demonstrate skills in selecting compliant materials for making products and artefacts	**Indicator:** B9.2.1.1.1: Discuss the factors that influence the selection of compliant materials	**Lesson:** 1 of 2

Performance Indicator: Learners can identify the properties of compliant materials and understand safe practices when working with tools/equipment.	**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation

Reference: Career Technology Curriculum Pg. 83

New words: Compliant, Materials, Properties, Safety, Tools

<table>
<tr><th>Phase/Duration</th><th>Learners Activities</th><th>Resources</th></tr>
<tr><td>PHASE 1:
STARTER</td><td>Show learners a few everyday items made from different materials.

Ask learners to identify which ones are made from compliant materials and justify their choices.

Share performance indicators with learners.</td><td></td></tr>
<tr><td>PHASE 2:
NEW LEARNING</td><td>Briefly review the properties of compliant materials using examples.
<table>
<tr><th>Compliant Materials</th><th>Properties</th></tr>
<tr><td>Rubber</td><td>Highly elastic
Resistant to water and many chemicals
Good electrical insulator
Dampens vibrations</td></tr>
<tr><td>Silicone</td><td>Highly flexible and elastic
Resistant to UV, ozone, and extremes of temperature
Biocompatible (used in medical devices)
Non-reactive and stable</td></tr>
<tr><td>Polyurethane (PU)</td><td>Good abrasion and wear resistance
Resistant to oils, greases, and many solvents
Can be formulated to be very soft or very hard
Available in foam format as well</td></tr>
<tr><td>Foams</td><td>Lightweight
Can be compressed and will return to their original shape
Good insulating properties</td></tr>
</table></td><td>Pictures and charts of compliant materials</td></tr>
</table>

	Used in mattresses, protective packaging, and more
Latex	Elastic Biodegradable Resistant to wear and tear Used in gloves, balloons, and many medical products

Discuss the differences between compliant and non-compliant materials.

Brainstorm potential risks of working with different tools. Discuss safety precautions to be followed.

Have learners watch a short video or pictures about safe practices when working with tools and equipment.

Teacher demonstrates on how to use tools safely while working with a compliant material.

Discuss the importance of safety when working with compliant materials.

Divide learners into groups. Give each group a few samples of different materials.

Each group identifies which samples are compliant materials based on their properties and presents their findings to the class.

<u>Assessment</u>

1. Name two compliant materials.
2. Identify any three compliant materials and state one property of each.
3. Why is it important to follow safety practices?
4. Name one safety precaution when using tools.

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:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Resistant Materials

Content Standard: B9.2.1.1 Demonstrate skills in selecting compliant materials for making products and artefacts	**Indicator:** B9.2.1.1.1: Discuss the factors that influence the selection of compliant materials	**Lesson:** 1 of 2

Performance Indicator: Learners can create artefacts using compliant materials and understand the factors influencing their selection.	**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation

Reference: Career Technology Curriculum Pg. 83

New words: Artefact, Factors, Selection, Appraisal

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show learners a simple artefact made from a compliant material. Ask them to guess which compliant material it's made from and its purpose. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Discuss the reasons why the material for the starter artefact was chosen. Guide learners to identify the factors that influence the selection of compliant materials Example: • *Skills of the designer* • *Temperature Resistance* • *Chemical Resistance* • *Purpose/function* • *Durability and Fatigue Life:* • *Cost* • *Availability* • *Density and Weight* • *UV Resistance* Provide a step-by-step demonstration of how to work with a compliant material, from measuring to surface finishing. Discuss the importance of each step and give tips for best practices. Allow learners to choose a compliant material and design a simple artefact. Learners' measure, cut, fold, join, and finish their artefacts based on what they learned from the demonstration.	Pictures and charts of compliant materials

	Once everyone is done, allow learners to display their artefacts. Learners gather in groups, appraising each other's work, discussing the materials chosen, and why. <u>Assessment</u> 1. What are two factors to consider when selecting a compliant material? 2. Why is it important to choose the right material for a task? 3. What is an artefact? 4. How can compliant materials be beneficial in creating 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 7

Week Ending:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Resistant Materials

Content Standard: B9.2.2.1 Demonstrate skills in selecting resistant materials for making products/artefacts	**Indicator:** B9.2.2.1.1: Discuss the factors that influence the selection of resistant materials	**Lesson:** 1 of 2
Performance Indicator: Learners can identify the properties of compliant materials and understand safe practices when working with tools/equipment.		**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation
Reference: Career Technology Curriculum Pg. 83		
New words: Resistant, Materials, Properties, Safety, Tools		

<table>
<tr><th>Phase/Duration</th><th>Learners Activities</th><th>Resources</th></tr>
<tr><td>PHASE 1:
STARTER</td><td>Begin with a scenario-based question: "Imagine you're designing a bridge to withstand extreme weather conditions.

What materials would you consider using, and why?" Encourage learners to share their initial thoughts.

Share performance indicators with learners.</td><td></td></tr>
<tr><td>PHASE 2:
NEW LEARNING</td><td>Start by reviewing the concept of resistant materials, discussing their properties, and the safe practices for working with tools and equipment when handling these materials.

<table>
<tr><th>Resistant Materials</th><th>Properties</th></tr>
<tr><td>Rubber</td><td>Elasticity, good resistance to abrasion, and weather resistance. Rubber is used in tires, seals, and various vibration-damping applications.</td></tr>
<tr><td>Polyethylene</td><td>Chemical resistance, lightweight, and low moisture absorption. It's used in various applications, including plastic containers, pipes, and liners for chemical tanks.</td></tr>
<tr><td>Fiberglass</td><td>High tensile strength, corrosion resistance, and lightweight. It's used in boat hulls, automotive parts, and building materials.</td></tr>
<tr><td>PVC</td><td>Good chemical resistance, electrical insulation, and low moisture absorption. PVC is widely used in plumbing, electrical cables, and construction materials.</td></tr>
<tr><td>Ceramic Materials</td><td>High-temperature resistance, excellent electrical insulating properties, and resistance to wear and corrosion. Ceramics are used in ball bearings, cutting tools, and as insulators in electronics.</td></tr>
<tr><td>Stainless Steel</td><td>Excellent corrosion resistance, high strength, durability, and resistance to heat and chemicals. It's commonly used in kitchen appliances, industrial equipment, and construction.</td></tr>
</table>
</td><td>Pictures and charts of compliant materials</td></tr>
</table>

	Emphasize the importance of safety in material selection and use. Discuss the various factors that influence the selection of resistant materials, such as purpose/function of the product, environmental conditions, durability, cost, and availability. Engage learners in a group discussion where each group is tasked with exploring one of these factors in more detail. Divide the class into small groups, and assign each group one of the factors influencing material selection. In their groups, learners should brainstorm and share examples of situations where their assigned factor is crucial in selecting resistant materials. Encourage learners to think critically and apply the knowledge they have gained. Demonstrate the processes involved in working with resistant materials, such as cutting, shaping, joining, and finishing. Highlight the importance of choosing the right tools and techniques for the specific material and its intended use. <u>Assessment</u> 1. How does the purpose or function of a product influence the choice of resistant materials? Give an example. 2. Discuss the factors to consider when ensuring the durability of a resistant material in a product. 3. What safety measures should be taken into account when working with resistant materials and tools?	
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:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Resistant Materials

Content Standard: B9.2.2.1 Demonstrate skills in selecting resistant materials for making products/artefacts	**Indicator:** B9.2.2.1.2: Discuss the reasons why resistant materials require particular techniques and tools for their safe handling and use	**Lesson:** 1 of 2

Performance Indicator: Learners can identify the properties of compliant materials and understand safe practices when working with tools/equipment.	**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation

Reference: Career Technology Curriculum Pg. 86

New words: Compliant, Materials, Properties, Safety precautions

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a simple question: "Why do you think it's important to use the right tools and techniques when working with materials like wood, metal, or plastic?" Allow learners to share their thoughts briefly. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Explain the importance of using specific techniques and tools when working with resistant materials. Emphasize that using the wrong tools or techniques can lead to accidents, damage to materials, and inefficiency. Discuss the concept of tool-material compatibility. Explain that different materials require specific tools because of variations in hardness, texture, and other properties. Use examples like saws designed for woodwork and cutting metals and the potential consequences of using the wrong tools. Connect safety precautions to specific processes involved in working with resistant materials when creating an artifact. E.g. *- When planning wood, check that the plane is sharp and correctly set.* *- When using sharp edged tools, always keep both hands behind the cutting edge.* *- Fix the hacksaw blade such that the teeth point away from the handle/ operator.* Provide examples of safety measures such as ensuring tools are sharp and correctly set, keeping hands behind cutting edges, and fixing hacksaw blades properly. Encourage a learner-centered discussion on the consequences of using the wrong tools or techniques and the benefits of following safety precautions.	Pictures and charts of compliant materials

	In small groups, learners can discuss scenarios where they would work with resistant materials and the correct tools and safety precautions to use. <u>Assessment</u> 1. Why is it important to use the right tools for specific resistant materials? Provide an example. 2. Discuss the potential consequences of using the wrong tools or techniques when working with resistant materials. 3. Name two safety precautions related to working with resistant materials, and explain why they are important. 4. In the context of your group discussions, share a scenario where tool-material compatibility and safety precautions are essential when working with resistant 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.	

WEEK 8

Week Ending:	**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. 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.	Samples of different smart and modern materials

	<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:	**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> 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?	Samples or examples of smart and modern materials.

	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:	**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.	Samples or examples of smart and modern materials.

	Assessment 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.	

Week Ending:	**Day:**	**Subject:** Career Technology	
Duration: 60MINS		**Strand:** Materials For Production	
Class: B9	**Class Size:**	**Sub Strand:** Food Commodities (Animal And Plant Sources)	
Content Standard: B9.2.4.1 Demonstrate skills in selecting food commodities in meal preparation	**Indicator:** B9.2.4.1.1: Discuss how to select food commodities used for meal preparation		**Lesson:** 1 of 2
Performance Indicator: Learners can explain the meaning of meaning of food commodities and categorize food commodities as plant or animal sources.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 89			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin by asking learners what they think of when they hear the word "food." List their answers on the board. Explain that food commodities are the basic ingredients we use to prepare different types of food. They can be raw materials like cassava or processed items like milk or wheat flour. Use an example familiar to the learners, like making a soup. Explain how different food commodities like vegetables, meat, and spices come together to create the final dish Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Ask each group to come up with a list of 10 common food commodities found in their community. Encourage them to think about ingredients used in various dishes and snacks. Each group presents their list to the class. Discuss the different items mentioned and ensure all understand the concept of food commodities. Guide the learners to categorize the listed food commodities as plant or animal sources. Create a chart on the board with two columns: "Plant Source" and "Animal Source." Place each item in the appropriate category. Provide each group with chart paper or butcher paper and assorted pictures of food commodities (or real objects, if available).	Pictures of various food commodities (or real objects

	Ask each group to create a collage of food commodities under the two categories: plant and animal. Encourage them to be creative and represent the different types of food available in their community. Each group presents their collage to the class, explaining the food commodities included and why they categorized them as plant or animal sources. Discuss the variety of options available in each category and how they contribute to a balanced diet. <u>Assessment</u> 1. What are food commodities? 2. Give two examples of common food commodities found in your community. 3. Where do food commodities come from? (Choose two options: plants, animals, or the sea) 4. Why is it important to include both plant and animal sources in our diet?	
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:	**Day:**	**Subject:** Career Technology
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Food Commodities (Animal And Plant Sources)

Content Standard: B9.2.4.1 Demonstrate skills in selecting food commodities in meal preparation	**Indicator:** B9.2.4.1.1: Discuss how to select food commodities used for meal preparation	**Lesson:** 1 of 2
Performance Indicator: Learners can describe importance of quality when buying food commodities		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:
Reference: Career Technology Curriculum Pg. 89		
New words:		

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin by asking learners what they consider the most important factors when buying food. List their answers on the board. Explain that not all food commodities are created equal. Discuss the importance of choosing fresh, safe, and properly packaged items for health and taste. Use a relatable example, like buying vegetables for a salad. Explain how wilted or discolored veggies can affect the dish. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**		Pictures of various food commodities (or real objects

Food Type	Freshness Indicators	Safety Indicators	Packaging Concerns
Fruits & Vegetables	Ripe but firm, vibrant color, free of bruises or blemishes, natural scent	No mold, rot, or excessive moisture	Undamaged containers, proper ventilation
Meat & Poultry	Bright red/pink color, firm flesh, minimal fat marbling, no off-putting odor	No discoloration, slimy texture, or excessive liquid in packaging	Sealed, leak-proof packaging, proper refrigeration
Fish & Seafood	Clear, bright eyes, firm flesh, shiny scales, mild ocean smell	No discoloration, bulging eyes, strong fishy odor, slimy texture	Sealed, leak-proof packaging, stored on ice or refrigerated
Dairy Products	Smooth texture, consistent color, pleasant smell	No lumps, discoloration, rancid odor, swollen packaging	Sealed, undamaged containers, proper refrigeration
Grains & Cereals	No lumps, moths, or foreign objects, pleasant aroma	No discoloration, stale odor, insect infestation	Sealed, undamaged packaging, stored in a cool, dry place

	Dry Goods	Consistent color and texture, no lumps or moisture, minimal dust	No discoloration, insect infestation, expired date	Sealed, undamaged packaging, stored in a cool, dry place	
	Assign each group a specific food type from the table (e.g., fruits & vegetables, dairy products, etc.). Ask each group to review the table and identify the key qualities to look out for when buying their assigned food type. Encourage them to discuss and make notes. Each group presents their findings to the class, highlighting the indicators of freshness, safety, and proper packaging for their assigned food type. Provide each student with a grocery store flyer or pictures of various food commodities. Challenge learners to choose five different food items from the flyer/pictures, applying the knowledge they learned about quality indicators. Encourage them to explain their choices and discuss any concerns they might have.				
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:	**Day:**	**Subject:** Career Technology (HE)
Duration: 60MINS		**Strand:** Materials For Production
Class: B9	**Class Size:**	**Sub Strand:** Food Commodities (Animal And Plant Sources)

Content Standard: B9.2.4.2 Demonstrate skills in planning meals for various members of the family	**Indicator:** B9.2.4.1.2: Discuss the basic food requirements for different members of the family	**Lesson:** 1 of 4
Performance Indicator: Learners can discuss the basic food requirements for different members of the family		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:
Reference: Career Technology Curriculum Pg. 90		
New words: Grooming, Hygiene, Appearance, Self-care		

<table>
<tr><th>Phase/Duration</th><th>Learners Activities</th><th>Resources</th></tr>
<tr><td>PHASE 1:
STARTER</td><td>Begin by asking learners to name different members of a family. List them on the board.

Explain that each family member has different nutritional needs based on age, activity level, health conditions, and other factors.

Define meal planning as the process of selecting and preparing healthy meals for the family, considering everyone's needs and preferences.

Share performance indicators with learners.</td><td></td></tr>
<tr><td>PHASE 2: NEW LEARNING</td><td>Assign each group a different family member (e.g., toddler, pregnant mother, elderly grandfather, athlete teenager).

Ask each group to research the basic food requirements and dietary needs of their assigned family member.

Encourage them to consider factors like calorie intake, essential nutrients, appropriate food textures, and any specific limitations.

Each group presents their findings to the class, creating a profile with information about their assigned family member's nutritional needs.
<table>
<tr><th>Different members of the family</th><th>Basic food requirements</th></tr>
<tr><td>Toddler</td><td>Body building and protective foods</td></tr>
<tr><td>Adolescent</td><td>Body building
Protective
iron</td></tr>
<tr><td>Pregnant/ lactating mothers</td><td>Body building
Protective
iron</td></tr>
</table>
</td><td>Pictures of different family members (optional)

Food pyramids</td></tr>
</table>

Aged	Vitamins	
Invalids	Vitamins	

Ask learners to choose one family member from their research and plan a complete meal (breakfast, lunch, or dinner) based on their specific dietary needs. Encourage them to use food pyramids diagram as guides.

Each student presents their planned meal to the class, explaining how they considered the family member's nutritional needs and food preferences.

Facilitate a discussion about their choices and provide constructive feedback

<u>Assessment</u>

1. Who are some different members of a family and how might their food needs differ?
2. What are three important factors to consider when planning meals for your family?
3. If you were planning a lunch for a pregnant woman, what foods would you include and why?
4. Why is it important to involve everyone in the family in meal planning?

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 9

Week Ending:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Tools, Equipment & Processes	
Class: B9	**Class Size:**	**Sub Strand:** Measuring & Marking Out	
Content Standard: B9.3.1.1 Demonstrate understanding of measuring and marking out tools and equipment	**Indicator:** B9.3.1.1.1: Discuss tools and equipment used for measuring and marking out		**Lesson:** 1 of 3
Performance Indicator: Learners can discuss tools and equipment used for measuring and marking out		**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation	
Reference: Career Technology Curriculum Pg. 91			
New words: Measurement Tools, Marking Out, Precision Instruments, Trade Areas			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a hands-on activity. Place a few tools and equipment related to measuring and marking out on a table. Ask learners to observe and write down the names of as many tools as they can identify. After a few minutes, discuss their observations as a class. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Discuss the importance of accurate measurement and marking in various trade areas. Introduce the concept of precision instruments for different applications. Divide the class into small groups. Assign each group a trade area (building site, wood workshop, metal/plastic workshop). Provide images or samples of tools used in each area. Ask groups to discuss and list the tools they think are used for measuring and marking out in their assigned trade area. Each group presents their findings, explaining the tools they identified and their purposes. Encourage discussions on the precision required in different trade areas and how it impacts the choice of tools. Allow learners to handle and examine various measuring and marking tools. Discuss the specific features and applications of each tool. Facilitate a class discussion on the similarities and differences in tools used across different trade areas.	Marking tools (pencils, chalk, markers) Images of measuring tools (ruler, tape measure, calipers, etc.)

	Explore the concept of adaptability in tools for varied materials (wood, metal, plastic). <u>Assessment</u> 1. Identify three tools commonly used for measuring in a wood workshop. 2. Explain the importance of precision instruments in a metal/plastic workshop. 3. Discuss a situation where accurate marking out is crucial on a building site. 4. How do the tools used in wood workshops differ from those used in metal/plastic workshops?	
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:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Tools, Equipment & Processes
Class: B9	**Class Size:**	**Sub Strand:** Measuring & Marking Out

Content Standard: B9.3.1.1 Demonstrate understanding of measuring and marking out tools and equipment	**Indicator:** B9.3.1.1.1: Discuss tools and equipment used for measuring and marking out	**Lesson:** 1 of 3

Performance Indicator: Learners can classify measuring and marking out tools and equipment according to their use in building, woodwork, and metal/plastic work.	**Core Competencies:** Communication and Collaboration (CC), Critical Thinking and Problem Solving (CP), Creativity and Innovation

Reference: Career Technology Curriculum Pg. 91

New words: Measurement Tools, Marking Out, Precision Instruments, Trade Areas

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin with a hands-on activity. Place a few tools and equipment related to measuring and marking out on a table. Ask learners to observe and write down the names of as many tools as they can identify. After a few minutes, discuss their observations as a class. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Discuss the concept of classification and why it is useful in organizing information. Highlight the importance of categorizing tools based on their applications. Divide the class into small groups. Provide a set of measuring and marking tools along with images or samples of tools used in building, woodwork, and metal/plastic work. Ask each group to classify the tools into categories based on their likely use in the three trade areas. Each group presents their classification, explaining the rationale behind their choices. Encourage discussions on the versatility of certain tools that may be used in multiple trade areas. Facilitate a class discussion on the commonalities and differences in tool classification among groups. Emphasize the adaptability of certain tools to different materials. Use an interactive whiteboard to create a digital chart of classified tools. Allow learners to drag and drop tools into the appropriate categories. <u>Assessment</u> 1. Name two measuring tools commonly used in metal/plastic work.	Marking tools (pencils, chalk, markers) Images of measuring tools (ruler, tape measure, calipers, etc.)

	2. Explain why adaptability is an important feature in some measuring tools. 3. How might the classification of tools help workers in a wood workshop? 4. Provide an example of a marking tool that could be used in both building and woodwork.	
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 10

Week Ending:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Measuring And Marking Out	
Content Standard: B9.3.1.1 Demonstrate understanding of measuring and marking out tools and equipment for making artefacts/ products and care and maintain	**Indicator:** B9.3.1.1.2 Demonstrate how to use the tools and equipment for measuring and marking out	**Lesson:** 2 of 4	
Performance Indicator: Learners can demonstrate the use of measuring and marking tools in food labs (kitchens) and sewing. Learners can acquire proper care and maintenance practices for relevant measuring and marking equipment.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 92			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson through questions and answers. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Show learners how to use different measuring cups and spoons for dry and liquid ingredients. Demonstrate measuring liquids accurately in a graduated measuring cup. Explain the importance of weighing ingredients using a kitchen scale for precise recipes. Guide them in using a measuring tape to portion and arrange ingredients on baking sheets. Teach learners how to take accurate body measurements (chest, waist, hips, inseam, etc.) using a tape measure. Show them how to transfer measurements to fabric or a pattern paper using a ruler and fabric marker. Demonstrate marking seam allowances and cutting fabric with fabric scissors following the marked lines. Divide learners into pairs and provide them with pattern paper or pre-marked patterns. Guide them in using body measurement charts and instructions to adjust the dress/blouse pattern to their size.	**Food Lab (Kitchen)**: Measuring cups and spoons in various sizes Graduated liquid measuring cup Kitchen scale Measuring tape Mixing bowls and utensils Ingredients for a simple recipe (e.g., cookies) **Sewing**: Tape measure Ruler Fabric marker Fabric scissors Sewing needle and thread, Scrap fabric or pre-cut pattern

	Encourage them to practice marking and cutting fabric accurately based on the adjusted pattern. Assign learners the recipe for two people and have them analyze the nutritional information of the ingredients. Challenge them to use measuring cups and spoons to portion ingredients following the recipe and considering recommended serving sizes. Let them experiment with preparing the meal for two, focusing on portion control and healthy food choices. Gather all used tools and equipment. Demonstrate proper cleaning and maintenance techniques for each tool, using soft cloths and mild cleaning solution as needed. Discuss the importance of storing tools correctly in toolboxes or containers to prevent damage and ensure their longevity. Highlight safety practices like using kitchen tools safely and handling sewing needles with care.	**Tool care and maintenance**: Soft cloths Mild cleaning solution Storage containers or toolboxes
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:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Measuring And Marking Out	
Content Standard: B9.3.1.1 Demonstrate understanding of measuring and marking out tools and equipment for making artefacts/ products and care and maintain	**Indicator:** B9.3.1.1.1 Discuss tools and equipment used for measuring and marking out		**Lesson:** 3 of 4
Performance Indicator: Learners can identify various tools and equipment used for measuring and marking out in different trade areas.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 91			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson through questions and answers. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Briefly discuss the importance of accurate measurement and marking in various trades. Show pictures or displays of tools and equipment, asking learners to guess their uses and name the trade areas they might be used in. Divide the class into groups and assign each group a trade area. Provide them with pictures and descriptions of relevant measuring and marking tools. Ask them to match the tools to their functions and discuss their importance in that specific trade. On the chart paper or whiteboard, create three columns representing the building site, wood workshop, and metal/plastic workshop. Challenge learners to sort the listed tools or pictures from activity 2 into the appropriate categories based on their primary use in each trade area. Divide learners into smaller groups and provide them with basic tools like rulers, squares, and chalk lines. Set up simple tasks like measuring distances, marking lines, or checking right angles with these tools. Ensure they practice safe handling and proper techniques. <u>Assessment</u>	Pictures or displays of measuring and marking tools for each trade area (building site, wood workshop, metal/plastic workshop

	1. What is the main difference between a steel tape measure used on a building site and a ruler used in a wood workshop? 2. In metalworking, why might a center punch be used before starting to drill a hole? 3. Why is it important to choose the right tool for measuring and marking in each trade area? 4. Can you name one tool that can be used in all three trade areas of building, wood, and metalwork?	
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 11

Week Ending:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Measuring And Marking Out	
Content Standard: B9.3.1.1 Demonstrate understanding of measuring and marking out tools and equipment for making artefacts/ products and care and maintain	**Indicator:** B9.3.1.1.2 Demonstrate how to use the tools and equipment for measuring and marking out	**Lesson:** 4 of 4	
Performance Indicator: Learners can understand and demonstrate the use of measuring and marking tools in building, woodworking, and metalworking. Learners can learn proper care and maintenance of measuring and marking equipment.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 92			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson through questions and answers. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Show learners how to set out a wall by using a tape measure to mark precise distances on the cardboard sheet. Demonstrate using a spirit level to ensure the wall is perfectly vertical. Explain how to snap a straight line using chalk line for marking the wall outline. Use a ruler to measure accurate lengths and widths on the wooden board scrap. Show learners how to mark parallel lines for cutting using a marking gauge. If using a saw, emphasize using the marked lines as guides for straight cuts. Guide learners in measuring dimensions on the sheet metal using a ruler. Demonstrate marking lines with a marker, emphasizing precision and legibility. Explain the optional use of a center punch to mark starting points for drilling holes (if applicable).	**Building (Mock Project)**: Large cardboard sheet (representing a wall) Masking tape Spirit level Chalk line Tape measure Pencil **Woodworking (Mock Project)**: Wooden board scrap Ruler Marking gauge Pencil **Metalworking (Mock Project):** Thin sheet metal scrap Ruler Metal snips

	Divide learners into groups and assign each group one project (wooden chair, sheet metal funnel, or setting out a wall). Provide them with the designated materials and tools discussed in the demonstrations. Challenge them to apply their newly learned skills in selecting and using the appropriate tools to complete their assigned project. Gather all used tools and equipment. Demonstrate proper cleaning and maintenance techniques for each tool, using soft cloths and appropriate lubricants if needed. Discuss the importance of storing tools correctly in toolboxes or containers to prevent damage and ensure their longevity. Emphasize safety practices like keeping blades clean and covered when not in use	Markers **Tool care and maintenance** materials: Soft cloths Lubricating oil (for specific tools) Tool boxes or storage containers
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 12

Week Ending:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Cutting/Shaping	
Content Standard: B9.3.2.1 Demonstrate the understanding of cutting/shaping tools and equipment used for making artefacts/ products	**Indicator:** B9.3.2.1.1 Discuss tools and equipment used for cutting and shaping	**Lesson:** 1 of 4	
Performance Indicator: Learners can identify and differentiate cutting and shaping tools used in various trade areas and everyday applications.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 93			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson through questions and answers. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Show learners pictures or displays of cutting and shaping tools from kitchen and sewing workshop. Ask them to identify the tools, discuss their functions, and differentiate them based on the materials they work with. Create a chart on the board, categorizing tools by trade area and highlighting similarities and differences in their purpose. Use the matching worksheet as a reinforcement activity. Divide learners into pairs and provide them with project materials. Have them analyze the pattern or fabric markings and discuss the required cuts and shapes. Guide them in selecting the appropriate cutting tools (scissors) and marking tools (pens, markers) for each step. Encourage them to practice safe and accurate cutting techniques. Briefly discuss the chosen recipe and identify the cutting tasks involved (chopping, slicing, grating, etc.). Ask learners to choose the appropriate kitchen utensils for each task based on size, sharpness, and material suitability. Observe their tool selection and provide guidance as needed	Pictures or displays of cutting and shaping tools for each trade area (building site, wood workshop, metal/plastic workshop, kitchen, sewing).

	Distribute instruction sheets or recipe cards for the chosen projects. Instruct learners to break down the process into smaller steps and identify the cutting and shaping activities involved in each step. Encourage them to discuss and problem-solve any challenges they might encounter. As they work, monitor their progress and provide support when needed. Gather the class and create a collective chart on the board. List the different activities involved in each project (e.g., measuring fabric, cutting sleeves, chopping vegetables, grating cheese). Beside each activity, have learners identify the specific tools used in both projects (e.g., scissors, ruler, knife, grater).	
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:	**Day:**	**Subject:** Career Technology (HE)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Cutting/Shaping	
Content Standard: B9.3.2.1 Demonstrate the understanding of cutting/shaping tools and equipment used for making artefacts/ products	**Indicator:** B9.3.2.1.2 Demonstrate how to use shaping and cutting tools and equipment for producing artefacts/products		**Lesson:** 2 of 4
Performance Indicator: Learners can identify and differentiate between various shaping and cutting tools in the kitchen and sewing lab.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 94			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Begin by showing pictures or videos of various artefacts/products created in the kitchen and sewing lab (e.g., decorated cakes, intricate quilts). Ask learners how these creations were made and what tools might have been used. Guide a discussion about the importance of shaping and cutting in different creative processes. Introduce the concept of specific tools designed for shaping and cutting in the kitchen and sewing lab Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Divide learners into small groups and distribute pictures or real examples of kitchen shaping and cutting tools (knives, peelers, cookie cutters, rolling pin). Each group can research and present one tool, explaining its function and safe handling techniques. Repeat the process for sewing lab tools, showcasing scissors, rotary cutters, needles, and pins. Discuss the differences in materials and applications between kitchen and sewing tools Instruct learners to work in pairs or small groups to create a simple food artefact using the learned shaping and cutting skills. Provide a recipe with clear instructions and emphasize safe food handling practices. For example, learners can make fruit salad using knives and cookie cutters to create fun shapes.	**Kitchen**: Cutting board Knives (chef's knife, paring knife, serrated knife) Peeler Cookie cutters Rolling pin Mixing bowls Spoons Ingredients for a simple recipe (e.g., fruit salad, sandwiches) **Sewing Lab**: Fabric scissors Rotary cutter and mat Sewing needles and thread Pins

	Guide learners through a basic sewing project like a tote bag or headband. Demonstrate how to use fabric scissors or a rotary cutter to cut out pieces according to the template. Demonstrate how to care for and maintain cutting and shaping tools and equipment used in the following trade work places: E.g. - Food laboratory (kitchen)—wash, clean and sterilize tools - Sewing workshop/laboratory—dust, wipe, oil tools	Fabric scraps Templates for simple projects (e.g., tote bag, headband)
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:	**Day:**	**Subject:** Career Technology (PT)	
Duration: 60MINS		**Strand:** Tools, Equipment And Processes	
Class: B9	**Class Size:**	**Sub Strand:** Cutting/Shaping	
Content Standard: B9.3.2.1 Demonstrate the understanding of cutting/shaping tools and equipment used for making artefacts/ products	**Indicator:** B9.3.2.1.1 Discuss tools and equipment used for cutting and shaping		**Lesson:** 3 of 4
Performance Indicator: Learners can identify various cutting and shaping tools used in woodworking and metalworking.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:	
Reference: Career Technology Curriculum Pg. 93			
New words:			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson through questions and answers. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Show pictures of various tools and have learners name them and describe their functions. Divide learners into teams and challenge them to design and build simple projects like bottle openers, keychains, or small shelves. Guide them through planning, material selection, and tool usage. Demonstrate basic cutting and shaping techniques on scrap wood and metal, emphasizing safety. Learners work on their projects using appropriate tools under teacher supervision. Teams present their finished projects, explaining their construction process and challenges overcome. Prepare a chart showing the activities and the appropriate tools used. Display charts for appraisal <u>Assessment</u> 1. Which tool from the building site would you NOT use to cut wood? (a) Table saw (b) Circular saw (c) Hammer and chisel (d) Tile cutter 2. What tool in the wood workshop can create decorative edges on a table? (a) Jigsaw (b) Drill (c) Router (d) Sander 3. To make a wooden handle for a bottle opener, you would NOT likely use: (a) Scroll saw (b) Hammer (c) Sander (d) Drill	Pictures and charts of food

	4. Which step comes before shaping the metal in a bottle opener project? (a) Drilling the hole (b) Cutting the shape (c) Applying finish (d) Planning the design	
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:	**Day:**	**Subject:** Career Technology (PT)
Duration: 60MINS		**Strand:** Tools, Equipment And Processes
Class: B9	**Class Size:**	**Sub Strand:** Cutting/Shaping

Content Standard: B9.3.2.1 Demonstrate the understanding of cutting/shaping tools and equipment used for making artefacts/ products	**Indicator:** B9.3.2.1.2 Demonstrate how to use shaping and cutting tools and equipment for producing artefacts/products	**Lesson:** 4 of 4
Performance Indicator: Learners can identify and differentiate various shaping and cutting tools in woodwork, building, and metalwork shops.		**Core Competencies:** CP 6.5: CI 5.4: CI 5.2: CI 6.10:
Reference: Career Technology Curriculum Pg. 94		
New words:		

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Show pictures or videos of diverse workshops (woodworking, construction, metalworking) and the amazing creations made there. Ask learners what tools they can identify and what role they play in shaping and cutting materials. Lead a discussion about the importance of shaping and cutting skills in these fields. Introduce the concept of specific tools designed for different materials and functions in each workshop. Share performance indicators with learners.	
PHASE 2: **NEW LEARNING**	Divide learners into small groups and rotate them through each workshop station (woodwork, building, metalwork). In each station, briefly demonstrates the main shaping and cutting tools, emphasizing safety protocols and proper handling techniques. Encourage learners to ask questions and try out the tools under supervision. In their chosen workshop, learners work in pairs to plan a simple project that utilizes skills learned from the exploration phase. Examples include: • Woodwork: Constructing a bird feeder with sawed wood pieces and assembled with nails. • Building: Building a miniature house frame using wood pieces and secured with nails. • Metalwork: Cutting and bending metal sheets to create a decorative wall hanging using the template.	Pictures or videos of workshops and projects showcasing shaping and cutting. Woodwork station: Safety gear (goggles, ear protection), workbench, variety of saws (hand saw, coping saw), chisel, mallet, sandpaper, wood scraps. Building station: Safety gear

	With instructor guidance, learners begin executing their planned projects, prioritizing safety and proper tool usage. Encourage teamwork and problem-solving during the creation process Demonstrate how to care for and maintain cutting and shaping tools and equipment used in the following trade work places: E.g. • Building site—wash and dry the wooden tools • Wood workshop—clean and oil wood chisels and saws regularly. • Metal/plastic workshop—clean and oil metal parts of tools	(goggles, gloves), hammer, nails, wood pieces, measuring tape, level
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.	