

GRADE 9 RATIONALIZED AGRICULTURE AND NUTRITION LESSON PLANS
TERM 3

WEEK 1: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of this lesson, learners should be able to:

- Name waste disposal facilities in the school.
- Use digital devices to observe pictures of waste disposal facilities.
- Appreciate the importance of cleaning waste disposal facilities.

Key Inquiry Question(s):

- Which waste disposal facilities do you have in school?

Learning Resources:

- Healthy Planet Agriculture, Grade 9 (Pages 61-76)

Organisation of Learning:

Introduction (5 minutes)

- Review: Recap the previous lesson focusing on hygiene and environmental care.
- Discussion: Engage learners in a brief discussion about their experiences with waste disposal in school. Ask questions to activate prior knowledge and lead into the new topic.

Lesson Development (30 minutes)

Step 1: Identifying Waste Disposal Facilities (10 minutes)

- Lead a class discussion where students name different waste disposal facilities available in the school (e.g., trash bins, recycling bins, compost bins). Write their responses on the board.

Step 2: Multimedia Exploration (10 minutes)

- Divide students into small groups and allow them to use digital devices (tablets, laptops) to search for images of various waste disposal facilities.
- Encourage them to find pictures that show proper and improper disposal practices.

Step 3: Group Presentation (5 minutes)

- Each group shares one facility they found and discusses what they learned about its purpose and proper usage. This fosters peer learning and reinforces the concepts discussed.

Step 4: Importance of Cleaning Facilities (5 minutes)

- Facilitate a discussion on why cleaning waste disposal facilities is essential. Ask guiding questions like, "What happens if we don't keep these areas clean?"
- Summarize the various viewpoints presented by the students, highlighting health, environmental, and aesthetic reasons.

Conclusion (5 minutes)

- Summary: Recap the key points discussed and ensure learners understand the specific outcomes of the lesson.
- Interactive Activity: Conduct a quick quiz or game (e.g., Kahoot) related to the main topics to reinforce knowledge and engagement.
- Preview: Briefly discuss what will be covered in the next lesson related to waste management practices in the community.

Extended Activities:

- Community Clean-Up Project: Organize a day where students can participate in cleaning and maintaining local public waste disposal facilities. This hands-on experience encourages civic responsibility.
- Research Project: Have students research different waste disposal systems used in various countries and present their findings to the class. This could include comparing their effectiveness and cleanliness standards.
- Creative Proposal: Students can create a proposal or poster on how to improve waste disposal practices in schools and the wider community. They can include illustrations and lessons learned from today's class.

Teacher Self-Evaluation:

WEEK 1: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Identify various waste disposal facilities.
- Watch a video clip about cleaning waste disposal facilities.
- Appreciate the importance of proper waste disposal.

Key Inquiry Question:

- How do we clean a sink?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 61-76

Organization of Learning

Introduction (5 minutes)

- Briefly review the main points from the previous lesson related to hygiene and cleanliness.
- Introduce key concepts from the assigned reading and encourage learners to share what they already know about waste disposal facilities.

Lesson Development (30 minutes)

Step 1: Identifying Waste Disposal Facilities (10 minutes)

- Discuss different types of waste disposal facilities (e.g., sinks, trash bins, recycling stations).
- Use visuals or diagrams from the learning resources to help illustrate these facilities.
- Engage learners in identifying waste disposal facilities around their school or home.

Step 2: Video Clip on Cleaning Waste Disposal Facilities (10 minutes)

- Show a short video clip (3-5 minutes) demonstrating how to clean waste disposal facilities effectively.
- After viewing, encourage students to take notes on key cleaning methods shown in the video.

Step 3: Importance of Waste Disposal Facilities (5 minutes)

- Facilitate a discussion on why keeping waste disposal facilities clean is important for personal hygiene and environmental health.
- Pose questions that prompt critical thinking, such as the potential consequences of neglecting these facilities.

Step 4: Hands-On Demonstration (5 minutes)

- If possible, conduct a brief demonstration using cleaning supplies (real or simulated) to show how to properly clean a sink or waste disposal facility.
- Encourage students to observe and ask questions.

Conclusion (5 minutes)

- Summarize the key points covered in the lesson: types of waste disposal facilities, methods for cleaning them, and their importance.
- Conduct a quick interactive activity, such as a quiz or a small group discussion, to reinforce the main topics.
- Preview the next lesson by introducing upcoming questions related to waste management practices.

Extended Activities:

1. Research Project: Assign students to research a local waste disposal facility and present its cleaning and maintenance procedures.
2. Field Trip: If feasible, plan a trip to a local waste management facility to learn directly about waste processes and hygiene practices.
3. Create a Cleaning Guide: Have students create a step-by-step cleaning guide for common waste disposal facilities at school or home.

Teacher Self-Evaluation:

WEEK 1: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Outline the procedure for cleaning waste disposal facilities.
- Watch a demonstration for cleaning waste disposal facilities.
- Appreciate the importance of cleaning waste disposal facilities.

Key Inquiry Question:

- How do we clean a dust bin?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 61-76.

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on hygiene practices and the importance of cleanliness.
- Guide learners to read and discuss the content from the specified pages, prompting them to identify key concepts related to the topic of cleaning waste disposal facilities.

Lesson Development (30 minutes)

Step 1: Understanding Waste Disposal Facilities (10 minutes)

- Discuss what waste disposal facilities are and their role in maintaining hygiene.
- Engage learners in a discussion about different types of waste disposal facilities (e.g., dust bins, compost bins) and the waste typically found in each.

Step 2: Materials Needed for Cleaning (5 minutes)

- List and discuss the various materials required for cleaning waste disposal facilities. This can include gloves, sponges, disinfectant, water, and trash bags.
- Emphasize safety measures when handling waste.

Step 3: Procedure for Cleaning (10 minutes)

- Outline the step-by-step procedure for cleaning waste disposal facilities:

1. Put on rubber gloves and a mask (if necessary).
2. Remove all waste from the facility and place it in a garbage bag.
3. Rinse the facility with water to remove any debris.
4. Apply disinfectant and scrub the surfaces thoroughly.
5. Rinse again with clean water and dry if needed.
6. Replace the waste with fresh liners if necessary.

- Ask learners to summarize the steps in their own words.

Step 4: Demonstration (5 minutes)

- Conduct a demonstration of cleaning a mock dust bin (could use a small container for demonstration).

- Engage students by asking them to identify the steps as they are performed.

Conclusion (5 minutes)

- Summarize the key points reviewed during the lesson, focusing on the procedure and its importance.

- Conduct a brief interactive activity, such as a quiz or a group discussion, to reinforce understanding of the main topics.

- Preview upcoming topics related to hygiene practices and waste management to spark curiosity.

Extended Activities:

- Group Project: Have students create posters on proper waste disposal and the effects of waste on the environment. These can be displayed in a common area.

- Field Trip: Organize a visit to a local waste management facility to see the process of waste disposal in action.

- Research Assignment: Assign students to gather information on recycling and composting and how these processes relate to waste management and hygiene practices.

Teacher Self-Evaluation:

WEEK 1: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Name the materials needed to clean waste disposal facilities.
- Clean waste disposal facilities at the household level.
- Appreciate the importance of cleaning waste disposal facilities.

Key Inquiry Question(s):

- What waste disposal facilities do you clean at your home?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 61-76

Organisation of Learning:

Introduction (5 minutes)

- Quickly review the previous lesson on hygiene practices to prepare students for new content.
 - Guide learners in reading and discussing relevant content from pages 61-76 of the textbook.
- Encourage them to focus on the key concepts related to waste disposal facilities.

Lesson Development (30 minutes)

Step 1: Identifying Facilities (7 minutes)

- Lead a discussion on different types of waste disposal facilities (e.g., trash cans, compost bins, recycling bins) found in their homes.
- Ask learners to name and describe these facilities, encouraging them to think about where waste is generated in their homes.

Step 2: Materials Needed (7 minutes)

- Discuss the materials needed for cleaning these facilities (e.g., trash bags, gloves, disinfectant, scrub brushes).
- Engage learners in a brainstorming session where they can list additional supplies that might help in cleaning effectively.

Step 3: Cleaning Procedures (8 minutes)

- Provide a step-by-step demonstration on how to clean a trash can:
 1. Gather materials (gloves, trash bags, cleaning solution).
 2. Empty the trash can and ensure it's free of debris.
 3. Apply cleaning solution and scrub the interior and exterior.
 4. Rinse and allow to dry before replacement.
- Encourage students to practice these steps through a group discussion or role-play scenario.

Step 4: Importance of Cleaning (8 minutes)

- Facilitate a discussion on why it is essential to clean waste disposal facilities.
- Highlight aspects such as health, hygiene, and environmental impact.
- Ask learners to relate the importance of cleanliness in waste disposal facilities to a broader understanding of personal and community hygiene.

Conclusion (5 minutes)

- Summarize key points covered in the lesson, emphasizing the materials needed, cleaning procedures, and the importance of maintaining clean facilities.
- Conduct a quick interactive activity, such as a quiz or true/false statements regarding waste disposal, to reinforce learning.
- Preview the next session's content, hinting at upcoming topics like recycling practices or composting benefits.

Extended Activities:

- Research Assignment: Learners can research different waste disposal methods used around the world and present their findings.
- Home Cleaning Project: Assign students to clean a waste disposal facility in their home and reflect on the experience in a written report, discussing what they learned about cleanliness and hygiene.
- Community Engagement: Organize a community clean-up day where students contribute by cleaning public waste disposal facilities.

Teacher Self-Evaluation:

WEEK 2: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

1. Outline the safety measures to be taken while cleaning waste disposal facilities.
2. Clean waste disposal facilities in the school adhering to safety precautions.
3. Appreciate the importance of cleaning waste disposal facilities.

Key Inquiry Question:

- Which safety measures should be taken while cleaning waste disposal facilities?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 61-76

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on the importance of hygiene and waste management.
- Introduce the topic of cleaning waste disposal facilities.
- Guide learners to read pages 61-76 from the learning resources, encouraging them to take note of key concepts related to safety measures.

Lesson Development (30 minutes)

Step 1: Understanding Safety Measures (10 minutes)

- Discuss the concept of safety measures.
- Ask students to identify and list safety measures from their reading.
- Create a class list on the board highlighting key safety measures (e.g., wearing gloves, masks, washing hands afterward, avoiding contact with waste).

Step 2: Practical Demonstration (10 minutes)

- Demonstrate the correct way to clean a waste disposal facility.

- Show how to apply the identified safety measures during the cleaning process (e.g., how to wear gloves properly, how to use cleaning agents safely).
- Discuss the importance of each step in maintaining hygiene and safety.

Step 3: Group Activity (5 minutes)

- Divide students into small groups.
- Have each group role-play the cleaning process of a waste disposal facility while verbalizing the safety measures being applied.

Step 4: Review and Reflection (5 minutes)

- Invite groups to share their experiences from the activity.
- Discuss why these safety measures are essential for both personal safety and community health.

Conclusion (5 minutes)

- Summarize the key points discussed: the importance of safety measures and respecting hygiene while cleaning waste disposal facilities.
- Conduct a quick interactive quiz where students can answer questions regarding safety measures and their importance.
- Briefly preview the next lesson topic, which will involve waste segregation and its role in hygiene practices.

Extended Activities:

- Students can research local regulations regarding waste disposal and create a poster showing safe cleaning practices.
- Plan a “Clean Up Day” at school where students practice cleaning waste disposal facilities, adhering to safety measures learned in class.
- Write a reflection essay on the significance of cleaning waste disposal facilities and the role of hygiene in community health.

Teacher Self-Evaluation:

WEEK 2: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: HYGIENE PRACTICES

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

By the end of the lesson, students should be able to:

1. Outline the importance of cleaning waste disposal facilities.
2. Adopt the use of clean waste disposal facilities at the household level.
3. Appreciate the importance of waste disposal facilities.

Key Inquiry Question:

- How does cleaning waste disposal facilities promote hygiene?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 61-76

Organisation of Learning

Introduction (5 minutes)

- Review: Begin by asking students to recall what they have learned about hygiene in prior lessons.
- Group Reading: Direct students to read pages 61-76 of the learning resource. Facilitate a discussion to help students articulate the key concepts around waste disposal and cleanliness.

Lesson Development (30 minutes)

Step 1: Importance of Cleaning Waste Disposal Facilities (10 minutes)

- Activity: Engage students in a group discussion about why cleaning waste disposal facilities is essential. Encourage them to think about the risks of neglecting these areas, such as disease spread, unpleasant odors, and attraction of pests.
- Outcome: Students will list at least three reasons that highlight the importance of maintaining cleanliness in waste disposal facilities.

Step 2: Types of Waste Disposal Facilities (5 minutes)

- Content: Explain various types of waste disposal facilities (e.g., trash bins, composting areas, recycling centers) and discuss their specific roles in promoting hygiene.
- Activity: Have students work in pairs to match different types of waste with appropriate disposal facilities.

Step 3: Household Practices (10 minutes)

- Content: Introduce practical steps for maintaining clean waste disposal facilities at the household level, such as regular emptying, proper segregation of waste, and using sealed bags.
- Activity: Create a checklist of maintenance tasks that households can follow to ensure cleanliness of waste disposal facilities. Have students suggest additional tips from their own experiences.

Step 4: Appreciating Waste Disposal Facilities (5 minutes)

- Discussion: Lead a conversation on how recognizing the importance of proper waste disposal contributes to community health and environmental sustainability.
- Reflection: Encourage students to think about the impact of dirty waste disposal facilities in their community and what changes they can advocate for.

Conclusion (5 minutes)

- Summary: Recap the main points discussed about the importance of cleaning waste disposal facilities.
- Interactive Activity: Conduct a quick quiz game using questions from the day's lesson to reinforce learning.
- Preview: Briefly introduce the topic of the next lesson, hinting at environmental impacts of waste management practices.

Extended Activities:

1. Research Assignment: Ask students to research different waste disposal systems used in other countries and present their findings to the class.
2. Community Clean-Up Project: Organize a community event where students can participate in cleaning local waste disposal areas, promoting hands-on experience.
3. Poster Creation: Students can create informational posters about the importance of waste disposal hygiene to display around the school.

Teacher Self-Evaluation:

WEEK 2: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Cleaning Waste Disposal Facilities

Specific Learning Outcomes:

- Outline the importance of cleaning waste disposal facilities.
- Adopt the use of clean waste disposal facilities at household level.
- Appreciate the importance of cleaning waste disposal facilities.

Key Inquiry Question(s):

- Why should you maintain hygiene?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 61-76.

Organisation of Learning:

Introduction (5 minutes)

- Begin with a brief review of the previous lesson on hygiene practices related to personal and community health.
- Introduce this lesson's focus on waste disposal facilities.
- Lead a reading activity from Healthy Planet Agriculture with the class, encouraging students to discuss their thoughts on waste disposal and its impact on hygiene.

Lesson Development (30 minutes)

Step 1: Importance of Cleaning Waste Disposal Facilities (10 minutes)

- Discuss the risks of not maintaining clean waste disposal facilities, including the spread of diseases and environmental hazards.
- Encourage students to list potential consequences they have witnessed or heard about.

Step 2: Recognition of Clean Disposal Practices (10 minutes)

- Introduce examples of clean waste disposal facilities, including bins and compost heaps.
- Demonstrate proper waste separation (recyclables, organic waste, and non-recyclables) with pictures or examples from home and school settings.

Step 3: Adoption of Clean Waste Disposal at Household Level (5 minutes)

- Ask students to brainstorm practical ways their households could improve their waste disposal methods.
- Facilitate a discussion on how students can promote these practices within their families, such as weekly check-ins on waste disposal cleaning.

Step 4: Appreciation and Reflection (5 minutes)

- Lead a reflective dialogue on why maintaining clean waste disposal facilities is not only a household responsibility but also a community necessity.
- Have students share their thoughts about how they can contribute to better waste management in their communities.

Conclusion (5 minutes)

- Summarize the key points discussed: the importance of cleaning waste disposal facilities and the responsibilities at the household level.
- Conduct a quick interactive quiz (e.g., Kahoot or a simple show of hands) to reinforce main topics.
- Preview the next session's focus on "Waste Reduction Strategies" and encourage students to think of methods to reduce waste in their daily lives.

Extended Activities:

- Research Assignment: Students can choose a type of waste disposal facility (like recycling centers or composting systems) and prepare a short presentation on best practices and benefits.
- Community Project: Organize a 'Clean Up Day' in their community, where students can apply what they've learned about waste disposal and teamwork.

Teacher Self-Evaluation:

WEEK 2: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Disinfecting Clothing and Household Articles

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Name the methods of disinfecting clothing and household articles.
- Disinfect clothing and household articles.
- Appreciate the importance of disinfecting clothing and household articles.

Key Inquiry Question:

- What is a disinfectant?

Learning Resources:

- "Healthy Planet Agriculture" Grade 9, pages 77-101

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on general hygiene practices.
- Guide learners to read from the specified pages in the textbook, focusing on the importance of cleanliness and the role of disinfectants.

Lesson Development (30 minutes)

Step 1: Introduction to Disinfectants (10 minutes)

- Define what a disinfectant is and its role in hygiene.
- Discuss various types of disinfectants available (e.g., bleach, alcohol, natural disinfectants).
- Use examples to illustrate the importance of using disinfectants to kill germs and bacteria on clothing and household items.

Step 2: Methods of Disinfecting Clothing (10 minutes)

- Present different methods of disinfecting clothing, including washing with hot water, using bleach, and machine drying.

- Demonstrate the steps involved in disinfecting a piece of clothing, including measuring the correct amount of disinfectant.

Step 3: Disinfecting Household Articles (5 minutes)

- Discuss common household articles that need disinfecting (e.g., kitchen towels, bed linens, bathmats).
- Describe easy methods for disinfecting these articles, including the use of sprays and wipes.

Step 4: Importance of Disinfecting (5 minutes)

- Facilitate a class discussion on why it is essential to maintain cleanliness and regularly disinfect items in our living environment.
- Encourage students to share their opinions and any experiences they have had related to the topic.

Conclusion (5 minutes)

- Summarize key points discussed during the lesson, reinforcing the methods and importance of disinfecting.
- Conduct a brief interactive quiz, asking students questions about the definitions and methods discussed.
- Preview the next session's topic on personal hygiene habits and their relationship to disinfecting.

Extended Activities:

- Create a poster illustrating the disinfecting process for clothing and household articles. Students can present their posters to the class.
- Assign a short research project where students choose a disinfectant and report on its chemical composition, uses, and effectiveness.
- Encourage students to carry out a home audit to identify items that require regular disinfection, ensuring they apply the methods learned in class.

Teacher Self-Evaluation:

WEEK 3: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Disinfecting Clothing and Household Articles

Specific Learning Outcomes:

By the end of the lesson, the learner should be able to:

- Outline methods of disinfecting clothing and household articles.
- Use digital devices to search for more information on methods of disinfecting clothing and household articles.
- Appreciate the importance of disinfecting clothing and household articles.

Key Inquiry Question(s):

- What methods can be used to disinfect clothing and household articles?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 77-101
- Access to digital devices for research

Organization of Learning:

Introduction (5 minutes)

- Review the previous lesson on general hygiene practices and their impact on health.
- Introduce the topic of disinfecting items by guiding learners to read and discuss relevant content from the learning resource. Focus on key definitions and the importance of disinfection.

Lesson Development (30 minutes)

Step 1: Introduction to Disinfection (10 minutes)

- Discuss what disinfection means and why it is essential for preventing illness, especially in homes.
- Introduce different types of disinfectants (e.g., chemical vs. natural) and their impact on clothing and household articles.

Step 2: Manual Methods of Disinfecting (10 minutes)

- Outline traditional methods such as boiling, washing with hot water, and using soaps or detergents.

- Engage learners in a discussion about when and why these methods would be appropriate. Include the role of sunlight in natural disinfection.

Step 3: Research Methods Using Digital Devices (5 minutes)

- Instruct learners to use digital devices (tablets/computers) to find additional modern methods or products for disinfecting clothing and household items.
- Promote safe and responsible internet searching practices, guiding them to look for credible sources.

Step 4: Group Discussion and Sharing (5 minutes)

- Allow learners to share their findings on different methods of disinfection from their research. Encourage critical thinking and discussion about the pros and cons of each method discovered.

Conclusion (5 minutes)

- Summarize the key points covered during the lesson: definition of disinfection, manual methods, and contemporary options.
- Conduct a brief interactive “agree or disagree” activity where statements about methods of disinfection are presented, and learners must choose sides based on their understanding.
- Preview the next session's topic on the environmental impact of disinfectants and ask students to think about questions related to that theme.

Extended Activities:

- Research Project: Students can choose a specific method of disinfection (e.g., using vinegar, bleach, etc.) and create a presentation on its effectiveness, environmental impact, and proper usage instructions.
- Home Disinfection Plan: Learners develop a hygiene plan for their home, detailing a schedule for disinfecting various household articles with chosen methods and justifying their choices.
- Interactive Presentation: Organize a debate in class on which method of disinfection is the most effective and eco-friendly, fostering collaboration and discussion on various perspectives.

Teacher Self-Evaluation:

WEEK 3: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub-Strand: Disinfecting Clothing and Household Articles

Specific Learning Outcomes:

By the end of the lesson, the learners should be able to:

- State methods of disinfecting clothing and household articles.
- Watch a video clip demonstrating disinfection of clothing and household articles.
- Appreciate the importance of disinfecting clothing and household articles.

Key Inquiry Question:

- Which methods can we use to disinfect clothing and household articles?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 77-101.
- Video clip demonstrating disinfection methods (prepared in advance).

Organisation of Learning:

Introduction (5 minutes)

- Activity: Start with a quick review of the previous lesson to refresh the students' minds about hygiene practices.
- Discussion: Guide learners to read and discuss relevant excerpts from the resource (pages 77-101), focusing on the key concepts of disinfection.

Lesson Development (30 minutes)

Step 1: Exploring Disinfection Methods (10 minutes)

- Activity: Introduce the learners to different methods of disinfecting clothing and household articles. Examples might include:
 - Washing with hot water
 - Using bleach or disinfectants
 - Steam cleaning
 - Sun drying
- Discussion Prompt: Ask students to share any methods they use and their effectiveness.

Step 2: Video Demonstration (10 minutes)

- Activity: Show a video clip that illustrates the disinfection of clothing and household articles.
- Follow-up Discussion: After the video, engage students with questions:
 - What methods did you observe in the video?
 - Why do you think these methods are effective?

Step 3: Group Discussion on Importance (5 minutes)

- Activity: Split students into small groups and prompt them to discuss the importance of disinfecting clothing and household articles.
- Key Points to Consider:
 - Health benefits
 - Prevention of illnesses
 - Social responsibility
- Each group will share their insights with the class.

Step 4: Practical Application (5 minutes)

- Activity: Provide students with a scenario where they must choose a method to disinfect a specific item (e.g., a pair of sneakers, a couch cushion, etc.).
- They will explain their choice and reason out the effectiveness of the method.

Conclusion (5 minutes)

- Summary: Recap key points discussed during the lesson and the learning objectives achieved.
- Interactive Activity: Conduct a quick quiz or a recap game to reinforce the main topics.
- Preview: Prepare learners for the next session on related hygiene topics, such as proper laundry techniques or cleaning products to be used safely at home.

Extended Activities:

1. Research Assignment: Students can research and prepare a presentation on various disinfectants available in the market, discussing their ingredients, effectiveness, and environmental impact.
2. Home Project: Encourage students to apply what they've learned by creating a disinfection plan for their homes, detailing which items to disinfect and the methods to use.

Teacher Self-Evaluation:

WEEK 3: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
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| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: HYGIENE PRACTICES

Sub Strand: Disinfecting Clothing and Household Articles

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

1. Identify clothes and household articles which can be disinfected.
2. Carry out disinfection of clothing and household articles.
3. Appreciate the importance of disinfecting clothing and household articles.

Key Inquiry Question:

- How can we disinfect household articles for hygiene purposes?

Learning Resources:

- Healthy Planet Agriculture Grade 9 (pages 77-101)

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on general hygiene practices.
- Guide learners to read and discuss relevant content from the textbook, focusing on disinfection methods for clothing and household articles.

Lesson Development (30 minutes)

Step 1: Identification of Items (10 minutes)

- Activity: In pairs, students will list clothing and household items that require regular disinfection (e.g., towels, bed linens, kitchen sponges, and cleaning tools).
- Discussion: Share lists with the class, highlighting why certain items are prone to germs and bacteria.

Step 2: Disinfection Techniques (10 minutes)

- Demonstration: Show various disinfection methods such as machine washing with hot water, using disinfectant sprays, and soaking in solutions (e.g., bleach solution).

- Guided Practice: Students will choose an item from their list and discuss which disinfection method they believe is most effective and why.

Step 3: Practical Activity (10 minutes)

- Hands-on Practice: Set up stations with safe, suitable disinfectants (e.g., wipes or sprays) and items that need disinfecting (e.g., fabric swatches or household items).
- Group Work: In small groups, students will practice disinfecting assigned items using the methods discussed.

Step 4: Importance of Disinfection (5 minutes)

- Discussion: Engage the class in a conversation about the consequences of not disinfecting items (e.g., illnesses, allergies).
- Reflection: Ask each student to share one new thing they learned about the importance of disinfection in maintaining health and safety.

Conclusion (5 minutes)

- Summarize key points covered in the lesson: identification of items, methods of disinfection, practical applications, and the health importance.
- Conduct a brief interactive quiz using a digital tool (like Kahoot) to reinforce the main topics discussed.
- Preview the next class, which will explore the role of disinfectants in preventing the spread of viruses and germs.

Extended Activities:

- Research Project: Have students research different disinfectants, comparing natural vs. chemical options. This can culminate in a presentation.
- Home Survey: Encourage students to conduct a household survey to identify how many items each family disinfects regularly and report back findings.
- Creative Poster: Create informative posters on the proper disinfection techniques and their importance to display in the classroom or school hallways.

Teacher Self-Evaluation:

WEEK 3: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Hygiene Practices

Sub Strand: Disinfecting Clothing and Household Articles

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Outline the importance of disinfecting clothes and household articles.
- Identify safety precautions to observe when disinfecting clothes and household articles.
- Appreciate the importance of disinfecting clothing and household articles.

Key Inquiry Question(s):

- What is the importance of disinfecting clothes and household items?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 77-101

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on hygiene practices.
- Ask students questions about what they remember regarding maintaining hygiene in their homes and personal items.
- Guide learners to read and discuss relevant content from the learning resources that relate to disinfecting clothing and household articles. Focus on highlighting the key concepts.

Lesson Development (30 minutes)

Step 1: Importance of Disinfecting (10 minutes)

- Discuss the reasons for disinfecting clothes and household items, such as preventing the spread of germs and maintaining health.
- Engage students with specific examples of situations where disinfecting is necessary (e.g., during flu seasons, after illness).
- Ask students to brainstorm ways in which they can apply these practices at home.

Step 2: Identifying Risk Areas (5 minutes)

- Identify specific clothes and articles in the home that need regular disinfecting (e.g., bedding, towels, kitchen cloths).
- Facilitate a short group discussion around the types of contaminants that can affect these items (e.g., bacteria, viruses, allergens).

Step 3: Safety Precautions (10 minutes)

- Teach students about essential safety precautions when disinfecting items, such as wearing gloves, ensuring proper ventilation, and keeping disinfectants away from children and pets.
- Use a step-by-step guide to demonstrate how to safely disinfect a common household item (e.g., a kitchen towel).
- Encourage students to share their experiences or questions regarding safety during cleaning processes.

Step 4: Appreciating the Importance (5 minutes)

- Discuss the social and personal responsibility associated with maintaining hygiene through disinfecting.
- Encourage students to reflect on how their actions can impact family members, friends, and the community at large.
- Invite learners to share their thoughts on how they can be advocates for good hygiene practices among their peers.

Conclusion (5 minutes)

- Summarize key points covered in the lesson, reinforcing the importance of disinfecting clothes and household articles and the safety precautions involved.
- Conduct a brief interactive activity where students can match different disinfecting methods to the household items (e.g., matching bleach for white clothing or vinegar for kitchen surfaces).
- Prepare learners for the next session by giving a preview of upcoming topics, such as the effects of poor hygiene and strategies to improve overall health at home.

Extended Activities:

- Home Hygiene Challenge: Students can document their disinfecting practices at home for one week and share their experiences with the class, including what they disinfected and the products they used.
- Research Assignment: Investigate different disinfecting agents (e.g., alcohol, hydrogen peroxide) and create a presentation on their effectiveness and safety measures.
- Create an Infographic: Design a visual guide on the must-do's of disinfecting, including safety tips and a checklist of common household items to focus on.

Teacher Self-Evaluation:

WEEK 4: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Describe grafting as a method of plant propagation.
- Use digital resources to search for information on grafting as a method of plant propagation.
- Appreciate the importance of grafting in plants.

Key Inquiry Question:

- What is grafting?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 102-116

Organisation of Learning

Introduction (5 minutes)

- Review the previous lesson on basic plant propagation methods.
- Guide learners to read and discuss relevant content from the learning resources, emphasizing understanding key concepts such as grafting and its significance.

Lesson Development (30 minutes)

Step 1: Understanding Grafting (10 minutes)

- Begin with a brief definition of grafting and discuss its historical significance in agriculture.
- Show images or videos of different grafting techniques (e.g., splice grafting, whip-and-tongue grafting).
- Facilitate a classroom discussion on why farmers might choose grafting over other methods of propagation.

Step 2: Process of Grafting (10 minutes)

- Explain the steps involved in the grafting process, using a visual aid or diagram:
 1. Selecting compatible rootstock and scion (the part of the plant to be grafted).
 2. Making precise cuts to join the rootstock and scion.

3. Securing the graft and ensuring it heals properly.

- Discuss factors that affect the success of grafting (e.g., timing, tools, and environmental conditions).

Step 3: Research Activity (5 minutes)

- Have students use digital resources (such as online articles, videos, or databases) to find additional information on grafting techniques or examples of successful grafted plants.
- Encourage students to jot down interesting facts or innovative uses of grafting they discover.

Step 4: Importance of Grafting (5 minutes)

- Engage learners in a discussion on the benefits of grafting, such as improving plant hardiness, disease resistance, and the ability to produce fruits from different varieties.
- Ask students how grafting affects food production and our agriculture industry.

Conclusion (5 minutes)

- Summarize the key points covered during the lesson: the definition of grafting, the process involved, and its importance.
- Conduct a brief interactive quiz or think-pair-share activity to reinforce the main topics learned.
- Preview the next session, which will focus on alternative plant propagation methods, and encourage learners to think about how these methods compare to grafting.

Extended Activities:

- Research Project: Have students choose a specific type of plant and create a presentation on how grafting has impacted its cultivation and distribution.
- Grafting Demonstration: If resources permit, organize a practical workshop where students can observe a live grafting demonstration or attempt grafting themselves using appropriate materials.
- Field Trip: Plan a visit to a local nursery or agricultural center to see real-world applications of grafting and speak with experts in the field.

Teacher Self-Evaluation:

WEEK 4: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: PRODUCTION TECHNIQUES

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Identify the various purposes for grafting of plants.
- Watch a video clip or a demonstration of grafting of plants.
- Appreciate the importance of grafting in plants.

Key Inquiry Question:

- Why is grafting done on a plant?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 102-116

Organisation of Learning

Introduction (5 minutes)

- Review the previous lesson on plant propagation techniques.
- Guide learners to read and discuss pages 102-106 from the learning resources, focusing on what grafting is and its significance in agriculture.

Lesson Development (30 minutes)

Step 1: Introduction to Grafting (10 minutes)

- Explain the basic concept of grafting and how it is used in horticulture. Highlight that grafting involves joining two different plants to grow as one.
- Discuss the various types of grafting (e.g., whip and tongue, cleft grafting) briefly.

Step 2: Purposes of Grafting (10 minutes)

- Facilitate a brainstorming session where learners can list potential purposes for grafting plants.
- Examples may include: creating disease-resistant plants, improving fruit quality, or increasing plant hardiness.
- Encourage discussion on how each purpose can benefit farmers and gardeners.

Step 3: Video Demonstration (5 minutes)

- Show a video clip or a live demonstration of the grafting process. Pause at key points to explain what is happening and to clarify any questions from the learners.

Step 4: Group Discussion (5 minutes)

- Divide the class into small groups to discuss the importance of grafting based on the information learned.
- Each group should share one key reason they believe grafting is essential for modern agriculture at the end of the discussion.

Conclusion (5 minutes)

- Summarize the key points discussed in the lesson: definitions, purposes of grafting, and its importance.
- Conduct a quick interactive Q&A session to reinforce understanding of the material.
- Prepare learners for the next session by informing them about related topics such as other plant propagation methods or the future of agriculture.

Extended Activities:

- Research Assignment: Students can research different plant species that are typically grafted and present their findings to the class. They could include aspects like climate adaptability and disease resistance.
- Practical Activity: If resources allow, students could carry out a simple grafting experiment with suitable plant cuttings to see the process first hand (ensure supervision and adherence to safety protocols).
- Creative Project: Create a poster presentation showing the step-by-step process of grafting, or the different types of grafting used in agriculture, which could be displayed in the classroom.

Teacher Self-Evaluation:

WEEK 4: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

1. Name plants which can be grafted.
2. Describe the procedure for grafting of plants.
3. Appreciate the importance of grafting in plants.

Key Inquiry Question:

- Which plants can be grafted?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 102-116.

Organisation of Learning:

Introduction (5 minutes)

- Review the previous lesson on plant propagation methods.
- Introduce the concept of grafting, highlighting why grafting is an important technique in agriculture.
- Guide learners to read and discuss relevant content from the learning resources, focusing on identifying possible plants for grafting.

Lesson Development (30 minutes)

Step 1: Naming Plants that Can Be Grafted (10 minutes)

- Present common examples of plants that are commonly grafted (e.g., apples, roses, tomatoes).
- Engage students in a group discussion or use a think-pair-share activity to brainstorm additional examples from their current knowledge or experience.
- List these examples on the board and explain why certain plants are chosen for grafting (e.g., compatibility, enhancement of qualities).

Step 2: Describing the Procedure for Grafting (10 minutes)

- Introduce students to the basic steps of the grafting process, which might include choosing the right rootstock, making cuts, and properly joining the scion and rootstock.
- Use diagrams or a video to demonstrate the grafting procedure visually.
- Allow students to pair up and explain the steps to each other to reinforce understanding.

Step 3: Appreciating the Importance of Grafting (5 minutes)

- Discuss the benefits of grafting, like improving disease resistance, enhancing fruit quality, and faster maturation.
- Show real-life examples or case studies of successful grafting in agriculture.
- Prompt a discussion on how grafting can benefit local agricultural practices or home gardening.

Step 4: Summarizing and Reiterating Key Concepts (5 minutes)

- Wrap up the session by quickly revisiting what was discussed: which plants can be grafted, the procedure for grafting, and the importance of this technique.
- Encourage students to ask any remaining questions for clarification.

Conclusion (5 minutes)

- Summarize the key points covered in the lesson and ensure the learning objectives have been met.
- Conduct a brief interactive activity, such as a quick quiz or game, where students answer questions about grafting techniques.
- Prepare learners for the next session by previewing topics or posing questions related to grafted plants' environmental implications or future agricultural technologies.

Extended Activities:

- Research Project: Assign students to research different grafting techniques used around the world and how they vary by plant type.
- Practical Demonstration: If resources allow, schedule a practical session where students can perform a simple grafting exercise (e.g., graft a small plant).
- Field Trip: Organize a field trip to a local nursery or botanical garden where grafting techniques are utilized.

Teacher Self-Evaluation:

WEEK 4: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub-Strand: Grafting in Plants

Specific Learning Outcomes:

- By the end of the lesson, learners should be able to:
- State the various purposes for grafting of plants.
- Carry out grafting for various purposes.
- Appreciate the importance of grafting in plants.

Key Inquiry Question(s):

- What are two purposes of grafting plants?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 102-116

Organisation of Learning:

Introduction (5 minutes):

- Briefly review the previous lesson on plant propagation techniques.
- Engage learners in a discussion about what they know about grafting. Prompt them to share any prior knowledge.
- Introduce the topic of grafting, focusing on its relevance in agriculture and horticulture.

Lesson Development (30 minutes):

Step 1: Understanding Grafting Purposes (10 minutes)

- Discuss and list the various purposes of grafting, including:
- Repair: Fixing damaged plants.
- Aesthetic: Enhancing appearances in ornamental plants.
- Rejuvenation: Reviving older plants to increase productivity.
- Improvement: Combining desirable traits from different plant varieties.
- Facilitate group discussions where students brainstorm additional purposes in pairs.

Step 2: Practical Demonstration (10 minutes)

- Show a demonstration of a simple grafting technique, such as the whip-and-tongue graft.

- Explain the materials needed and the steps involved in the process.
- Discuss safety precautions and the importance of cleanliness to prevent disease.

Step 3: Hands-On Grafting Activity (8 minutes)

- Provide each student or small group with plant cuttings, grafting knives, and tape.
- Under your guidance, have students carry out their grafting, applying what they learned from the demonstration.
- Encourage them to take notes on the process, noting any challenges faced.

Step 4: Reflection and Group Share (2 minutes)

- Have students briefly share their experiences with the grafting activity.
- Ask the groups to reflect on the purpose they chose to demonstrate through their grafting.

Conclusion (5 minutes):

- Summarize the key points discussed: the purposes of grafting and the technique learned.
- Facilitate an interactive quiz game where students answer questions based on the lesson to reinforce knowledge.
- Preview the next session, which will involve exploring other plant propagation techniques, encouraging students to consider how grafting compares.

Extended Activities:

1. Research Assignment: Ask students to research a specific grafting technique used in commercial agriculture and present their findings in the next class.
2. Field Trip: Plan an excursion to a local nursery or botanical garden where students can observe advanced grafting techniques and their applications.
3. Creative Project: Have students create an informational poster that outlines grafting techniques and their benefits, displaying them in the classroom or school hallway.

Teacher Self-Evaluation:

WEEK 5: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, the learner should be able to:

- Identify ways of taking care of grafted plants to ensure successful union.
- Watch a video clip demonstrating various ways of caring for grafted plants.
- Appreciate the importance of grafting in plants.

Key Inquiry Question:

- What are the ways of taking care of grafted plants?

Learning Resources:

- Healthy Planet Agriculture - Grade 9, pages 102-116
- Video clip on care for grafted plants (to be selected)

Organisation of Learning:

Introduction (5 minutes)

1. Review Previous Lesson: Start with a brief recap of what was covered in the last lesson related to plant production. This might include discussions on plant health or other propagation techniques.
2. Discussion & Reading: Invite learners to read specific sections (pages 102-116) of "Healthy Planet Agriculture" that relate to grafting. Highlight key concepts and definitions while facilitating a discussion to ensure comprehension of terms like "grafting" and "union."

Lesson Development (30 minutes)

Step 1: Understanding Grafting (10 minutes)

- Explain grafting as a method of joining two plants to grow together. Discuss the types of grafts (e.g., whip-and-tongue, cleft grafting) briefly.

Step 2: Needs of Grafted Plants (10 minutes)

- Introduce the environmental and care needs of grafted plants. Discuss factors such as light, soil moisture, and nutrients.

Step 3: Care Practices (5 minutes)

- Focus on specific care practices for grafted plants, such as watering, protection from pests, and appropriate fertilization. Make sure to note how these practices influence the successful union of grafts.

Step 4: Video Clip Viewing (5 minutes)

- Show a video clip that illustrates practical ways of taking care of grafted plants, highlighting techniques that encourage successful growth and union. Invite learners to note important practices observed in the video.

Conclusion (5 minutes)

- Summarize Key Points: Review the main points discussed, stressing the importance of proper care for grafted plants.
- Interactive Activity: Conduct a quick quiz or Q&A session to reinforce learned topics. This could be through matching care practices with their benefits or listing them on the board.
- Preview Next Session: Briefly introduce the next topic, which may involve exploring more advanced grafting techniques or discussing the impact of grafting on food production.

Extended Activities:

- Research Project: Assign learners to research different types of grafting used worldwide and prepare a short presentation on a specific type, including its historical significance and applications.
- Class Experiment: Set up a classroom experiment where students can graft plants themselves and observe the outcomes over time. This could be done using easy-to-graft plants like tomatoes or flowers.
- Create a Care Guide: Have students create a visual care guide for grafted plants, including illustrations, dos, and don'ts, which can be displayed in the classroom.

Teacher Self-Evaluation:

WEEK 5: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

- By the end of the lesson, learners should be able to:
- State the importance of taking care of grafted plants.
- Take care of grafted plants to ensure a successful union.
- Appreciate the importance of grafting in plants.

Key Inquiry Question:

- What is the importance of taking care of grafted plants?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 102-116

Organisation of Learning

Introduction (5 minutes)

1. Begin by reviewing the previous lesson on basic plant care and propagation techniques.
2. Ask students to share their thoughts on what they remember and relate it to grafting.
3. Introduce today's topic by explaining the relevance of grafting and why care is critical for grafted plants.

Lesson Development (30 minutes)

Step 1: Understanding Grafting (10 minutes)

- Discuss what grafting is and how it works.
- Highlight the benefits of grafting, such as improved disease resistance and fruit quality.
- Ask students to think about various plants that can be grafted and the advantages they might have.

Step 2: Care for Grafted Plants (10 minutes)

- Talk about the essential care requirements for grafted plants (e.g., watering, pruning, and pest control).

- Discuss how improper care can affect the grafting union.
- Encourage students to list care practices they think are essential for grafted plants.

Step 3: Recognizing Successful Grafting (5 minutes)

- Explain signs of a successful graft union (such as new growth and healthy leaves).
- Discuss how students can monitor their grafted plants effectively.
- Encourage learners to consider how often they should check on their plants.

Step 4: Appreciating Grafting (5 minutes)

- Lead a discussion on why grafting is an important agricultural technique.
- Ask students to share personal connections or experiences with grafting or plant care.
- Highlight the economic and environmental impact of grafting in agriculture.

Conclusion (5 minutes)

1. Summarize key points covered in the lesson regarding care for grafted plants and their importance.
2. Conduct a brief interactive activity, such as a quiz or group discussion, to reinforce the main topics.
3. Provide a preview of the next session, which will delve into more advanced methods of plant propagation.

Extended Activities

- Students can create a care guide for grafted plants, which includes watering schedules, pest management techniques, and growth monitoring tips.
- Assign learners to research a specific grafted plant and prepare a presentation on its benefits and care needs.
- Encourage students to experiment with grafting at home or in a community garden and document their observations and results.

Teacher Self-Evaluation:

WEEK 5: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub-Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

1. Outline the reasons for grafting of plants.
2. State the safety measures to take when grafting plants.
3. Appreciate the importance of grafting in plants.

Key Inquiry Question:

- What is the importance of grafting plants?

Learning Resources:

- Healthy Planet Agriculture Grade 9 (Pages 102-116)

Organisation of Learning:

Introduction (5 minutes)

- Begin by reviewing the previous lesson, prompting students to recall information related to plant propagation.
- Introduce the topic of grafting and guide learners to read specific sections (pages 102-116) from the provided resource. Encourage discussion around key concepts, giving examples of grafting in real-life scenarios.

Lesson Development (30 minutes)

Step 1: Understanding Grafting (10 minutes)

- Explain what grafting is and its role in plant production.
- Discuss the reasons for grafting, such as:
 - Repairing a damaged plant.
 - Improving plant characteristics (e.g., disease resistance, enhanced fruit quality).

Step 2: Safety Measures for Grafting (10 minutes)

- Introduce important safety measures to implement during grafting. Discuss:
 - The use of sharp tools and importance of handling them carefully.

- Wearing gloves to avoid infection in both the graft and the person.
- Ensuring a clean workspace to prevent disease transmission.

Step 3: Importance of Grafting (5 minutes)

- Discuss the broader implications of grafting in agriculture, such as:
- Economic benefits (higher yield, improved quality).
- Environmental benefits (promoting biodiversity).

Step 4: Real-Life Applications (5 minutes)

- Share examples of successful grafting in commercial agriculture or gardening.
- Engage learners by asking them to share any local examples or personal experiences with grafting.

Conclusion (5 minutes)

- Summarize key points covered during the lesson: reasons for grafting, safety measures, and its importance in agriculture.
- Conduct a brief interactive activity, like a think-pair-share, where students discuss one reason they find most important about grafting.
- Preview the next topic: “Plant Propagation Techniques,” and encourage students to think about different methods they want to explore.

Extended Activities:

- Research Project: Assign a small project where students can research a specific type of grafting used in their local area or a specific plant that benefits greatly from grafting.
- Hands-On Activity: If resources allow, plan a hands-on grafting workshop where students can practice grafting techniques in a controlled environment.
- Field Trip: Consider organizing a visit to a local nursery or agricultural research center to see grafting techniques in action.

Teacher Self-Evaluation:

WEEK 5: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Grafting in Plants

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Outline the reasons for grafting of plants.
- Appraise grafting for aesthetics, repair, improvement, and rejuvenation purposes.
- Appreciate the importance of grafting in plants.

Key Inquiry Question:

- Which plants are mostly grafted in the nearby environment?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 102-116.

Organisation of Learning:

Introduction (5 minutes)

- Begin with a review of the previous lesson. Remind students about the basics of plant care and propagation.
- Guide learners to read and discuss relevant content from the learning resources (pages 102-116), emphasizing key concepts related to grafting.

Lesson Development (30 minutes)

Step 1: Understanding Grafting (10 minutes)

- Define grafting: Explain that grafting is a horticultural technique used to join parts of two plants together so they can grow as one.
- Discuss the types of plants commonly grafted in their environment (e.g., fruit trees, roses).
- Engage students in identifying local plants that are grafted.

Step 2: Reasons for Grafting (10 minutes)

- Outline the reasons for grafting:
- Repairing a damaged plant (restoring health).
- Improvement of plant quality (e.g., better fruits, flowers).

- Use examples to illustrate each reason. Encourage learners to share personal experiences or observations related to plant grafting.

Step 3: Aesthetics and Rejuvenation (5 minutes)

- Discuss how grafting can enhance the aesthetic appeal of plants (e.g., creating unique flower colors or patterns).
- Explain the rejuvenation process: How grafting can help older plants regain vigor.
- Ask students to think of ways they have seen grafting used for aesthetic purposes in their community or gardens.

Step 4: Importance of Grafting (5 minutes)

- Lead a discussion on the overall importance of grafting in agriculture and gardening, including economic benefits and sustainability.
- Group students to brainstorm what would happen to local agriculture if grafting did not exist.

Conclusion (5 minutes)

- Summarize the key points discussed during the lesson:
- Definition and types of grafting.
- Reasons for grafting: repair, improvement, aesthetics, rejuvenation.
- Conduct a brief interactive activity, such as a think-pair-share, where students discuss one thing they learned about grafting.
- Prepare learners for the next session by previewing upcoming topics, such as other propagation methods (cutting, layering).

Extended Activities:

- Research Project: Students can research different types of grafting techniques and present their findings to the class. They can focus on a specific plant type, such as fruit trees or ornamental plants.
- Gardening Activity: If possible, organize a practical session where students can practice grafting techniques on school plants or participate in local gardening clubs.
- Field Trip: Plan a visit to a local nursery or botanical garden where students can observe grafting in action and ask questions from professionals.

Teacher Self-Evaluation:

WEEK 6: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: PRODUCTION TECHNIQUES

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of this lesson, learners should be able to:

- Identify materials needed to construct a homemade sun dryer.
- Watch a video clip of making a homemade sun dryer for vegetables.
- Appreciate the use of a homemade sun dryer.

Key Inquiry Question(s):

- What materials do you need to make a homemade sun dryer?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 117-120

Organisation of Learning:

Introduction (5 minutes)

- Begin with a brief review of the previous lesson on food preservation methods.
- Guide learners to read and discuss relevant content from pages 117-120, emphasizing key concepts about sun drying.

Lesson Development (30 minutes)

Step 1: Identifying Materials (10 minutes)

- Initiate a discussion on the materials needed to make a homemade sun dryer. Ask students to brainstorm materials based on their prior knowledge or experiences.
- List their responses on the board and reference pages 117-120 for confirmation and additional materials.

Step 2: Understanding the Video Clip (10 minutes)

- Show a video clip demonstrating the construction of a homemade sun dryer.
- Pause the video at different stages to highlight important points and discuss the process with the class.

Step 3: Hands-On Activity (5 minutes)

- Divide the students into small groups and provide them with a task: to create a list of the steps involved in making a homemade sun dryer based on the video they just watched.
- Regroup and have each group share their lists.

Step 4: Discussion on Appreciation (5 minutes)

- Initiate a class discussion about the benefits of using homemade sun dryers for vegetable preservation. Encourage students to think of ways this method aids sustainability and food security.

Conclusion (5 minutes)

- Summarize the key points learned regarding the materials and processes of making a homemade sun dryer.
- Conduct an interactive quiz using a few questions related to the materials and steps discussed.
- Preview the next lesson focused on other food preservation techniques like canning and freezing.

Extended Activities:

1. Design Project: Encourage students to design their own version of a sun dryer, including sketches and lists of materials. They can present their designs to the class.
2. Research Assignment: Have students research other traditional methods of food preservation around the world and create a presentation to share in class.
3. Local Gardening: Organize a small gardening project where students grow vegetables and later use the sun dryer they created to preserve them, linking practical skills with agricultural knowledge.

Teacher Self-Evaluation:

WEEK 6: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: PRODUCTION TECHNIQUES

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

1. Name materials required to make a homemade sun dryer.
2. Describe how to make a homemade sun dryer.
3. Appreciate the use of a homemade sun dryer.

Key Inquiry Question:

- How do you make a homemade sun dryer?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 117-120

Organisation of Learning

Introduction (5 minutes)

- Review the previous lesson on drying techniques and their importance in agriculture.
- Guide learners to read pages 117-120 from the learning resource. Encourage them to identify and discuss key concepts relating to homemade sun dryers.

Lesson Development (30 minutes)

Step 1: Identify Materials (10 minutes)

- Activity: As a class, brainstorm the materials needed to create a homemade sun dryer. Write the following materials on the board:
 - Wooden planks or pallets
 - Clear plastic sheeting or glass
 - Hinges (if using wood)
 - Nails or screws
 - Measuring tape
 - Saw and hammer (for assembly)
 - Optional: paint or varnish for weatherproofing
- Discussion: Ask students why each material is important for the function of the dryer.

Step 2: Describe Construction Method (10 minutes)

- Presentation: Explain the step-by-step process to construct a homemade sun dryer. For instance:
 1. Measure and cut the wooden planks to appropriate sizes for the frame.
 2. Assemble the frame using nails or screws.
 3. Attach clear plastic sheeting or glass on the top to capture sunlight.
 4. Ensure a way for air to circulate to avoid moisture buildup.
- Note-making: Ask students to take notes on each step.

Step 3: Features and Benefits (5 minutes)

- Discussion: Discuss why making a homemade sun dryer can be beneficial. Prompt students to think about topics like cost efficiency, environmental sustainability, and food preservation.

Step 4: Connect to Real-World Applications (5 minutes)

- Activity: In small groups, have students brainstorm scenarios where homemade sun dryers are beneficial in their community. They can think of fruits, vegetables, or even herbs that could be sun-dried to preserve them.

Conclusion (5 minutes)

- Summarize the key points:
 - The materials needed to make the dryer
 - The steps to follow in constructing it
 - The benefits of using a homemade sun dryer
- Interactive Activity: Conduct a quick quiz or discussion to reinforce the concepts (e.g., have students quiz each other on materials and steps).
- Preview the next session, hinting at exploring other sustainable food preservation techniques.

Extended Activities:

- Have students create a design plan for their own homemade sun dryer, including sketches and a list of materials.
- Organize a “Sun Drying Day” where learners can bring in fruits or vegetables to experiment with sun drying techniques at school.
- Encourage learners to research and present on other sustainable agricultural techniques used around the world.

Teacher Self-Evaluation:

WEEK 6: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: PRODUCTION TECHNIQUES

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Identify vegetables which can be dried using a homemade sun drier.
- Construct a homemade sun drier to preserve vegetables.
- Appreciate the use of a homemade sun dryer.

Key Inquiry Question:

- Which vegetables can we dry using a homemade sun drier?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 117-120

Organisation of Learning:

Introduction (5 minutes):

- Review the previous lesson on food preservation methods.
- Guide learners in reading and discussing relevant content from the learning resources, emphasizing the key concepts of sun drying.

Lesson Development (30 minutes):

Step 1: Identification of Vegetables (10 minutes)

- Discuss the benefits of drying vegetables using a homemade sun drier.
- As a class, brainstorm and create a list of vegetables suitable for sun drying (e.g., tomatoes, peppers, onions).
- Encourage learners to think about why certain vegetables are better suited for this method.

Step 2: Introduction to Sun Drier Construction (10 minutes)

- Present the basic principles of how sunlight, airflow, and heat work to dehydrate vegetables.
- Show examples of simple designs for homemade sun driers using materials like wood, mesh, and glass.
- Discuss safety considerations and best practices for building and using the sun drier.

Step 3: Group Activity - Designing a Sun Drier (10 minutes)

- Divide learners into small groups and provide them with materials (cardboard, markers, scissors).
- Instruct each group to sketch a design for their own homemade sun drier, noting materials needed and dimensions.
- Have students discuss the advantages of their designs in relation to effective sun drying.

Step 4: Construction and Experimentation (optional, if time allows)

- If materials are available, allow students to construct a simple model of their sun drier design in class.
- Discuss how they would test its effectiveness with different vegetables and the expected drying time.

Conclusion (5 minutes):

- Summarize the key points about identifying vegetables for drying, the construction process of a sun drier, and its importance in food preservation.
- Conduct a quick interactive quiz or Q&A session with learners to reinforce the main topics.
- Preview the next lesson on alternative preservation methods (e.g., dehydration and freezing) and pose questions for consideration.

Extended Activities:

- Research and present a report on traditional food preservation methods used in different cultures.
- Create a poster or digital infographic illustrating the steps of constructing a homemade sun drier.
- Initiate a small project where learners can try drying leftover fruits and vegetables at home and report back on their findings.

Teacher Self-Evaluation:

WEEK 6: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Identify vegetables that can be dried using a homemade sun drier.
- Construct a homemade sun drier to preserve vegetables.
- Appreciate the use of a homemade sun drier.

Key Inquiry Question(s):

- Which vegetables can we dry using a homemade sun drier?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 117-120.

Organisation of Learning:

Introduction (5 minutes)

- Begin with a brief review of the previous lesson on food preservation methods.
- Ask students what they remember about different ways to preserve food.
- Guide students to read pertinent sections from the learning resources, focusing on topics related to sun drying and its benefits.

Lesson Development (30 minutes)

Step 1: Identify Suitable Vegetables (10 minutes)

- Engage students in a discussion about vegetables that are commonly dried.
- Create a collective list on the board (examples: tomatoes, peppers, carrots, etc.).
- Encourage students to think about the characteristics that make certain vegetables suitable for drying (e.g., water content, texture).

Step 2: Understand the Principles of Drying (10 minutes)

- Explain how a homemade sun dryer uses the sun's heat and airflow to remove moisture from vegetables.
- Discuss factors that can affect the drying process, such as temperature, humidity, and airflow.

- Show examples of simple designs of sun dryers (e.g., box dryer, screen dryer).

Step 3: Constructing a Homemade Sun Dryer (10 minutes)

- Provide students with materials needed (e.g., cardboard box, mesh, or screen, plastic wrap).
- Divide the class into small groups to plan and create their own simple sun drier.
- Instruct students to consider how they will ensure optimal drying conditions for their construction.

Step 4: Presentation and Reflection (Optional)

- Allow the groups to present their designs to the class.
- Facilitate a discussion on what worked well in their designs, and what could be improved.

Conclusion (5 minutes)

- Summarize the key points covered in the lesson, emphasizing the types of vegetables suitable for sun drying and the importance of preserving food.
- Conduct a short interactive quiz or discussion to reinforce the main topics.
- Preview upcoming topics related to food preservation or healthy eating, encouraging students to think about how knowledge of sun drying can be applied in real-life cooking.

Extended Activities:

- Have students research and present on different methods of food preservation used in various cultures around the world.
- Assign a homework project where students try drying a small amount of vegetables at home and report on their experience and results.
- Encourage students to create an informational poster about the homemade sun drier, including the steps for construction and types of vegetables that can be dried.

Teacher Self-Evaluation:

WEEK 7: LESSON 1

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, students should be able to:

- Outline the importance of preservation of vegetables.
- Utilize a homemade sun dryer for the preservation of vegetables.
- Appreciate the benefits of using a homemade sun dryer.

Key Inquiry Questions:

- What is the importance of preservation of vegetables?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 117-120

Organisation of Learning:

Introduction (5 minutes):

- Begin with a brief review of the previous lesson related to agricultural techniques.
- Ask students what they remember about preserving food and why it might be important.
- Guide learners to read pages 117-120 in "Healthy Planet Agriculture" and encourage a discussion about the key concepts presented.

Lesson Development (30 minutes):

Step 1: The Importance of Vegetable Preservation (10 minutes)

- Discuss why preserving vegetables is important (e.g., reducing waste, extending shelf-life, maintaining nutrition).
- In pairs, have students list benefits of preserving vegetables and share with the class.

Step 2: Introduction to Homemade Sun Dryers (10 minutes)

- Introduce the concept of homemade sun dryers.
- Explain how sun drying works and the materials needed to build one.
- Show a brief video or diagram (if available) to visualize the concept.

Step 3: Building and Using a Homemade Sun Dryer (5 minutes)

- Provide step-by-step instructions for building a simple homemade sun dryer.
- Discuss safety and best practices for drying vegetables (e.g., cleanliness, choosing the right vegetables).

Step 4: Discussion of Benefits (5 minutes)

- Facilitate a discussion about the advantages of using a homemade sun dryer compared to other preservation methods.
- Encourage students to share thoughts about sustainability and environmental impact.

Conclusion (5 minutes):

- Summarize the key points about the importance of vegetable preservation and the homemade sun dryer process.
- Conduct a quick quiz or interactive activity (e.g., match terms with definitions or a true/false game) to reinforce the main topics.
- Provide a preview of the next lesson, hinting at further preservation techniques or challenges.

Extended Activities:

- Assign students to build a small sun dryer at home (with parental guidance) and document the process.
- Challenge students to research and present on different cultural preservation methods for vegetables around the world.
- Organize a class project where students bring in different dried vegetables and discuss their preservation process and taste test.

Teacher Self-Evaluation:

WEEK 7: LESSON 2

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, students should be able to:

- Outline the importance of preserving vegetables.
- Sun-dry vegetables using a homemade dryer.
- Appreciate the use of a homemade sun dryer.

Key Inquiry Question(s):

- What are 2 demerits of preserving vegetables using a sun dryer?

Learning Resources:

- Healthy Planet Agriculture Grade 9, pages 117-120

Organisation of Learning

Introduction (5 minutes)

- Briefly review the previous lesson on food preservation methods.
- Guide students to read and discuss relevant content from the Healthy Planet Agriculture text, focusing on vegetable preservation and the concept of sun drying.

Lesson Development (30 minutes)

Step 1: Importance of Vegetable Preservation (10 minutes)

- Discuss why preserving vegetables is essential for nutrition, reducing waste, and improving food security.
- Ask students to share any methods they know for preserving vegetables.

Step 2: What is Sun Drying? (10 minutes)

- Explain the process of sun drying vegetables and how it works (removes moisture to prevent spoilage).
- Highlight which vegetables are most effectively sun-dried (e.g., tomatoes, peppers, herbs).

Step 3: Demonstration of Making a Homemade Sun Dryer (5 minutes)

- Show students a simple way to create a homemade sun dryer using materials such as a wooden frame and mesh or cloth.
- Discuss safety considerations and environmental factors (sunlight, cleanliness).

Step 4: Practical Activity - Sun Drying Vegetables (5 minutes)

- Divide students into small groups and provide them with fresh vegetables.
- Each group will prepare the vegetables for sun drying, following the steps learned.

Conclusion (5 minutes)

- Summarize key points from the lesson: the importance of vegetable preservation, the process and benefits of sun drying, and how to create a homemade sun dryer.
- Engage students in a brief interactive activity: a quick quiz or group discussion on the demerits of sun drying.
- Preview the next session, hinting at other preservation techniques they will explore.

Extended Activities:

- Research Project: Assign students to research and present on different preservation techniques used in various cultures around the world.
- Experiment: Have students keep a record of the vegetables they sun dry at home and note any differences in taste and texture after a week.
- Journal Entry: Ask students to write a journal entry reflecting on what they learned about preserving vegetables and how they might use these techniques at home.

Teacher Self-Evaluation:

WEEK 7: LESSON 3

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

- By the end of the lesson, learners should be able to:
- Identify ways in which innovative technology can be used to preserve vegetables.
- Promote the usage of a homemade sun dryer to the school community for adoption purposes.
- Appreciate the use of a homemade sun dryer.

Key Inquiry Question:

- How can innovative technology be used to preserve vegetables?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 117-120

Organisation of Learning:

Introduction (5 minutes):

- Begin by reviewing the previous lesson on sustainable agriculture practices.
 - Guide learners to read selected passages from pages 117-120 of "Healthy Planet Agriculture."
- Facilitate a discussion on the key concepts, focusing on vegetable preservation technologies.

Lesson Development (30 minutes):

Step 1: Introduction to Preservation Techniques (7 minutes)

- Briefly introduce innovative technologies for preserving vegetables (e.g., refrigeration, drying, canning).
- Discuss the importance of these techniques in reducing food waste and promoting food security.

Step 2: Exploring the Homemade Sun Dryer (10 minutes)

- Present the concept of a homemade sun dryer as a practical and sustainable preservation method.

- Discuss materials needed for building a simple sun dryer, using examples and illustrations where possible.
- Engage learners by asking for their ideas on what materials could be used to create a sun dryer from common household items.

Step 3: Benefits of Using a Homemade Sun Dryer (8 minutes)

- Guide learners to identify and list the benefits of using a homemade sun dryer, such as cost-effectiveness, ease of use, and environmental impact.
- Discuss real-life examples or case studies where communities have successfully adopted sun drying.

Step 4: Promoting Adoption within the School Community (5 minutes)

- In groups, have learners brainstorm and develop a mini-presentation on how they would promote the sun dryer to their peers and school community.
- Encourage them to think about potential benefits for the community and ways to share knowledge about this technology.

Conclusion (5 minutes):

- Summarize the key points discussed about innovative preservation methods and the homemade sun dryer.
- Conduct a brief interactive activity, such as a quick quiz or a discussion round, where learners share one thing they learned and how they would explain it to someone else.
- Preview the next lesson, which will explore additional sustainable agricultural practices and technologies.

Extended Activities:

1. Build a Model: Encourage students to create a small model of a homemade sun dryer with materials found at home or in class.
2. Community Research Project: Assign learners to research and present on another innovative preservation technique used globally, comparing it to the homemade sun dryer.
3. Field Trip: Plan a visit to a local farm or community garden that practices sustainable agriculture, highlighting the use of various preservation methods.

Teacher Self-Evaluation:

WEEK 7: LESSON 4

| SCHOOL | LEVEL | LEARNING AREA | DATE | TIME | ROLL |
|--------|---------|---------------------------|------|------|------|
| | GRADE 9 | AGRICULTURE AND NUTRITION | | | |

Strand: Production Techniques

Sub Strand: Homemade Sun Dryer

Specific Learning Outcomes:

By the end of the lesson, learners should be able to:

- Describe how a homemade sun dryer can be used to curb food shortages.
- Promote the use of a homemade sun dryer within the school community for adoption purposes.
- Appreciate the benefits of using a homemade sun dryer.

Key Inquiry Question:

- How can a homemade sun dryer curb food shortages in the community?

Learning Resources:

- Healthy Planet Agriculture, Grade 9, pages 117-120.

Organisation of Learning

Introduction (5 minutes)

- Review the previous lesson on food preservation techniques and their importance.
- Guide learners to read from "Healthy Planet Agriculture" (pages 117-120). Highlight key concepts related to homemade sun dryers.

Lesson Development (30 minutes)

Step 1: Understanding Homemade Sun Dryers (10 minutes)

- Discuss the components of a homemade sun dryer and how it functions.
- Explain the process of drying fruits, vegetables, and herbs, emphasizing the principle of using sunlight for preservation.

Step 2: Curbing Food Shortages (10 minutes)

- Facilitate a discussion on food shortages and the reasons behind them (e.g., overproduction, spoilage).
- Guide learners to brainstorm how a homemade sun dryer could help mitigate these shortages by allowing communities to dry and store excess food.

Step 3: Promoting Usage in the School Community (5 minutes)

- Divide the learners into small groups. Each group should come up with a short presentation or a poster to promote the benefits of using a homemade sun dryer.
- Encourage them to think about how they would present this to the school community and what key points to highlight.

Step 4: Appreciation of Homemade Sun Dryers (5 minutes)

- Engage the students in a reflective activity where they discuss what they appreciate about using homemade sun dryers.
- Encourage them to think about environmental benefits, affordability, and empowerment of the community.

Conclusion (5 minutes)

- Summarize the key points learned today, focusing on the practical applications of homemade sun dryers in combating food shortages.
- Conduct an interactive activity where each student shares one new fact or concept they learned. This reinforces understanding and retention.
- Preview the next lesson, which will focus on other innovative food preservation techniques and community sustainability.

Extended Activities

- Project Assignment: Have students create their own model or blueprint for a homemade sun dryer, incorporating materials that are locally available.
- Community Awareness Campaign: Assign students to organize an awareness campaign at school about food preservation methods, including homemade sun dryers. This could involve posters, presentations, or even demonstrations.
- Research Activity: Students research other communities or countries that effectively use solar drying techniques and present findings in the next class.

Teacher Self-Evaluation: