Strengthened Senior High School

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplars for Organic Agriculture Production

TECH-PRO ELECTIVE

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LESSON EXEMPLAR			
Learning Area	**ORGANIC AGRICULTURE PRODUCTION**	**Grade Level**	**11**
Term	**2**	**Lesson Exemplar**	**1**

I. OBJECTIVES	
A. Content Standard	The learners demonstrate understanding of principles in producing organic fertilizer and organic concoctions in accordance with industry practices.
B. Performance Standard	The learners perform activities in producing organic concoctions and extracts and organic fertilizer in accordance with industry practices.
C. Learning Competencies	Perform activities in producing organic fertilizers based on production practices
II. REFERENCES and MATERIALS	**A. REFERENCES** Badgley, Catherine, J. Moghtader, E. Quintero, E. Zakem, J. Chappell, K. Avilés Vázquez, A. Samulon, and I. Perfecto. "Organic Agriculture and the Global Food Supply." *Renewable Agriculture and Food Systems* (June 2007). Castro, A. D. "How Sustainable Is Organic Agriculture?" Paper presented at the Roundtable Discussion, National Academy of Science and Technology (NAST), Hyatt Hotel and Casino, Manila, Philippines, March 14, 2011. Dangour, A. D., S. K. Dodhia, A. Hayter, E. Allen, K. Lock, and R. Uauy. "Nutritional Quality of Organic Foods: A Systematic Review." *American Journal of Clinical Nutrition* 90 (2009): 680–685. Department of Agriculture. *Philippine National Standard: Organic Agriculture*. Quezon City, Philippines: Bureau of Agriculture and Fisheries Standards (BAFS), 2016. Department of Agriculture–Bureau of Animal Industry. *Pag-aalaga ng Native na Baboy*. Brgy. Lagalag, Tiaong, Quezon, Philippines: National Swine and Poultry Research and Development Center (NSPRDC), 2014.

	Department of Science and Technology. *Organic Agriculture in the Philippines: A Training Manual*. Los Baños, Laguna, Philippines: Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCARRD), 2014. Reprint. Technical Education and Skills Development Authority–Qualification Standards Office. *Training Regulations for Organic Agriculture Production (OAP) NC II*. Taguig City, Philippines: TESDA, 2012. *Dictionary.com* https://www.dictionary.com **B. MATERIALS** Pictures, video clip, power point presentation, laptop/ tablets, smart TV, activity sheets, internet connectivity, actual tools, implements and equipment
III. CONTENT	**Key Topics Learned in the Previous Grade Level (Grade 4 – AFA):** • *Compost*, organikong pataba at natural na pestisidyo • Paggawa ng compost • paraan sa paggawa ng *compost* • Mga nilalaman ng *compost* • Katangian ng magandang • *compost* • *vermicomposting* **1. Producing Organic Fertilizers** • Principles of organic composting • Method of composting o vermiculture (vermi-composting) o anaerobic composting o compost tumblers o hot composting o trench composting o aerated static pile composting
IV. OBJECTIVES	1. Perform activities in producing organic fertilizers based on production practices At the end of the lesson, the learners should be able to: *1.1 Explain the principles of organic composting and different composting methods.* *1. 2 Demonstrate the ability to set up, manage, and evaluate various composting systems.* *1.3 Exhibit environmental responsibility and a sustainable mindset***.**

V. PROCEDURES		ANNOTATIONS
A. Activating Prior Knowledge	***Day 1*** 1**. Activating Prior Knowledge** This part of the lesson helps learners recall or connect what they already know about **waste materials, gardening practices, and organic matter** to the new topic **Producing Organic Fertilizers**. It serves as a bridge between their everyday experiences and the concepts of composting. **a. Visual Prompt / Picture Talk** Show images of kitchen scraps, dried leaves, garden soil, and compost pits. Ask learners: • *"Which of these materials have you seen or used at home?"* • *"Which of these materials have you seen or used at home? What do you think happens when organic waste is left to decompose?"* *Ai generated images via copilot*	The teacher will ensure guided inquiry when asking questions to the learners. The SHS IDF present in this part of the of the plan is **relevant and reflective**. **Relevant** because learners will be able to see the immediate use and value of ***producing organic fertilizer*** in daily life, for community agriculture, or family livelihood. **Reflective** because the teacher's questions will prompt learners to reflect on personal or family experiences in producing organic fertilizer, deepening ownership of the learning. Further, it uses the following approaches: **Inclusive:** The use of realia and visual aids accommodates learners with different learning styles and literacy levels. **Ideational:** Students express ideas and prior knowledge about producing organic fertilizer, fostering conceptual connections. Finally, it uses **experience** wherein learners share personal stories or family

	b. Quick Brainstorming Activity Guide students to recall prior ideas by asking: • *"What do you already know about fertilizers?"* • *"Have you heard of composting? What do you think it means?"* • *"How do farmers or gardeners improve soil quality and how do differ in conventional farming?"* **2. Establishing the Purpose of the Lesson** At the end of the lesson, learners will be able to: *1.1 Explain the principles of organic composting and different composting methods.* *1. 2 Demonstrate the ability to set up, manage, and evaluate various composting systems.* *1.3 Exhibit environmental responsibility and a sustainable mindset***.**	practices involving producing organic fertilizer and what are those methods via informal learning.
B. Instituting New Knowledge	1. **Presenting Examples** To introduce the concept of producing organic fertilizers, the teacher shows relatable, real-life examples such as images or samples of **kitchen scraps**, **dried leaves**, **vermicompost**, **compost piles**, and **decomposed organic matter**. The teacher may also present a **short video clip** demonstrating different composting methods (vermicomposting, anaerobic composting, hot composting, compost tumblers, trench composting, and aerated static pile composting). **Video clip reference:** *https://www.bing.com/videos/riverview/relatedvideo?q=&mobile=0&mid=07AE3B92E8F2DF96F2EB07AE3B92E8F2DF96F2EB&churl=https%3a%2f%2fwww.youtube.com%2fchannel%2fUCEr_8p2djD-89JOZuvyOyzA&FORM=M365C*	*This part of the plan uses **collaboration** where small group discussions allow students to learn from each other's interpretations and background knowledge.*

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https://outlook.cloud.microsoft/host/b5abf2ae-c16b-4310-8f8a-d3bcdb52f162/entity1-d870f6cd-4aa5-4d42-9626-ab690c041429?deeplink=mail%2Finbox

These examples help learners visualize how organic waste materials undergo natural decomposition and how different composting techniques are used in home gardens, farms, and community waste-management practices.

2. Discussing New Concept

A. DEFINITION OF TERMS

1. Principles of Organic Composting

These are the fundamental guidelines that govern the natural process of breaking down organic materials. They include maintaining the proper carbon-to-nitrogen (C:N) ratio, ensuring adequate moisture and aeration, and supporting microbial activity to produce high-quality compost.

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2. Method of Composting

Refers to the different techniques used to decompose organic waste into nutrient-rich fertilizer. Methods vary based on oxygen availability, temperature, equipment used, and the scale of composting.

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a. Vermiculture (Vermi-Composting)

A composting method that uses specific types of worms-usually red wigglers-to break down organic waste. Worms consume biodegradable materials and produce vermicast, a highly nutritious organic fertilizer.

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b. Anaerobic Composting

A composting process that occurs without oxygen. Organic materials are sealed in containers or pits, allowing microorganisms to break them down slowly in oxygen-free conditions. This process produces compost over a longer period and may generate biogas as a byproduct.

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c. Compost Tumblers

Rotating, enclosed containers used to compost organic materials more efficiently. By turning or spinning the tumbler, air is mixed into the compost, which speeds up decomposition and minimizes odors.

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d. Hot Composting

A fast-composting method that relies on **high temperatures (55–70°C)** generated by active microbial activity. It requires the right balance of materials, moisture, and frequent turning to maintain heat and produce compost quickly-often within weeks.

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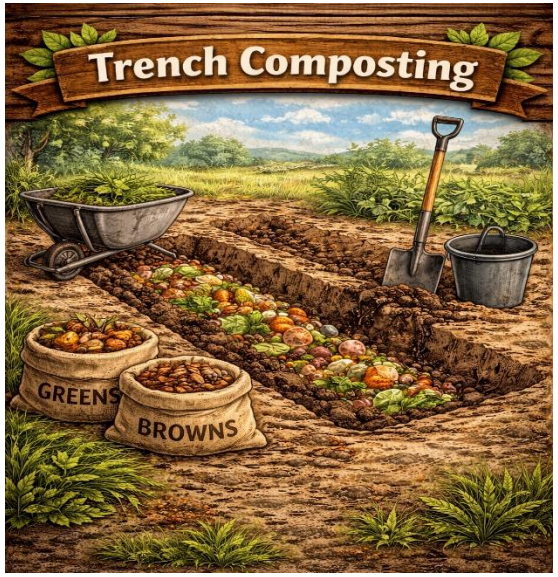
e. Trench Composting

A simple method where organic waste is **buried directly into the soil**. Materials are placed into a dug trench or pit, allowing natural soil organisms to decompose them slowly. This method enriches soil without needing repeated turning.



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f. Aerated Static Pile Composting

A composting technique where organic materials are arranged in a large pile with a system of pipes or vents that supply air. This reduces the need for turning and is suitable for large-scale composting operations such as farms or community facilities.

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B. DISCUSSION

SHORT DISCUSSION & EXAMPLES

1. Producing Organic Fertilizers

Producing organic fertilizers involves converting biodegradable materials—such as kitchen scraps, dried leaves, plant waste, and animal manure—into nutrient-rich soil amendments. These fertilizers improve soil health, increase microbial activity, and support sustainable farming. Instead of throwing organic waste away, composting turns it into a useful resource for plants and the environment.

Example:

Collecting vegetable peelings at home and turning them into compost for a school or backyard garden.

*This station rotation activity transforms the classroom into an **interactive, learner-centered space** where students actively engage with various types of planting materials. Through movement, observation, and discussion, learners develop not just technical knowledge but also **critical thinking, social awareness, and problem-solving skills**.*

	2. Principles of Organic Composting Organic composting is based on natural decomposition. Microorganisms such as bacteria, fungi, and worms break down organic matter when conditions are right. Effective composting follows key principles: • Proper Carbon-to-Nitrogen (C:N) ratio (brown + green materials) • Adequate moisture (like a wrung-out sponge) • Good aeration (oxygen flow) • Temperature control (warm conditions speed up decay) When these elements are balanced, compost forms faster and becomes rich in nutrients. **Example:** Mixing dried leaves (carbon-rich) with vegetable scraps (nitrogen-rich) and turning it regularly to allow air circulation. **3. Methods of Composting** A. Vermiculture (Vermi-composting) Vermicomposting uses composting worms—such as African night crawlers—to break down organic matter. Worms eat biodegradable materials and produce vermicast, a highly nutritious fertilizer. This method is fast and ideal for households or small gardens. **Example:** Using a plastic bin with bedding material (e.g., shredded paper) and feeding worms with fruit and vegetable scraps to produce vermicast. **B. Anaerobic Composting** Anaerobic composting happens without oxygen, usually inside a sealed container or pit. Materials decompose slowly, producing less need for turning but sometimes more odor. It	

	is suitable for large quantities of waste or areas with limited space. **Example:** Putting kitchen waste inside a tightly sealed compost bin or drum and allowing it to ferment over several weeks. **C. Compost Tumblers** A compost tumbler is a rotating container that allows easy mixing of organic materials. Turning the tumbler supplies oxygen, speeds up decomposition, and keeps composting neat and odor-controlled. It is ideal for homes or schools. **Example:** Loading grass clippings and vegetable scraps into a tumbler and rotating it every 1–2 days to aerate the contents. **D. Hot Composting** Hot composting uses high temperatures (55–70°C) to break down organic materials rapidly. When the C:N ratio, moisture, and aeration are well-balanced, the pile heats up, killing weed seeds and pathogens. This method produces compost in weeks. **Example:** Creating a large compost pile with alternating layers of greens and browns, then turning it frequently to maintain heat. **E. Trench Composting** Trench composting involves digging a hole or trench, burying organic waste underground, and allowing it to decompose naturally. It requires little maintenance and directly enriches the soil where plants will grow. **Example:** Digging a trench in a vegetable garden, burying banana peels and leaf litter, and covering it with soil.	

	F. Aerated Static Pile Composting This method forms a large compost pile with built-in pipes or channels that allow air to flow without frequent turning. It is suitable for larger farms or community composting because it handles large amounts of organic waste efficiently. **Example:** Building a big compost pile with perforated PVC pipes at the base to allow air to circulate through the pile. ***Day 2*** 3. **Developing Mastery** Collaborative Activity: ***"Composting Method Experts' Circle"*** (A group-based exploration and presentation activity) **Objective:** To help learners collaboratively understand the principles of organic composting and the different composting methods by researching, discussing, and presenting as "experts." **Activity Description** **Instructions:** 1. Divide the class into 6 groups. 2. Each group becomes the **"Expert Team"** for one composting method: • Vermiculture (Vermi-composting) • Anaerobic composting • Compost tumblers • Hot composting • Trench composting • Aerated static pile composting	

	3. Provide each group with short references (printed materials, photos, or teacher-prepared cards describing their assigned method). 4. Students collaborate to analyze their composting method and answer the guide questions. 5. Each group creates a 3–5-minute mini-presentation (poster, chart, or demonstration using improvised materials). 6. Class forms a large circle, and each group presents their composting method to the class—teaching classmates like "experts." **Guide Questions (Group Discussion)** 1. What is the main idea behind your assigned composting method? 2. What materials are needed for this method? 3. What are the steps involved in setting it up? 4. How does this method follow the principles of organic composting? (C:N ratio, moisture, aeration, temperature) 5. What are the advantages and limitations of your composting method? 6. Where is this method best used? (home, school, farm, small space, large-scale operations) **Reporting Output (Simple Format)** Each group must present: -Name of the composting method -Short explanation (2–3 sentences) -Materials needed -Steps -Pros & cons -Recommended application	

	1. Which composting method do you personally prefer, and why? 2. How can composting help reduce waste in your home, school, or community? 3. What did you learn from your classmates' presentations that you did not know before? 4. How can you apply the principles of organic composting in real-life situations? 5. Why is environmental responsibility important in producing organic fertilizers?	*This part of the lesson is **reflective:** learners are guided to evaluate and justify choices, strengthening critical thinking and personal insight.*
C. Demonstrating Knowledge and Skills	**1. FINDING PRACTICAL APPLICATION** ***(For: Producing Organic Fertilizers)*** In this stage, learners apply what they have learned about the **principles of organic composting** and **various composting methods** through practical, realistic, and hands-on tasks. These application activities help learners transfer classroom knowledge into meaningful agricultural practices and prepare them for the upcoming **performance task on producing organic fertilizers**. **Practical Application Activity: "Build-Your-Own Composting Setup"** **Description:** Learners work in small groups to design and prepare a **simple composting setup** using one method they have studied: • Vermiculture • Anaerobic composting • Compost tumblers • Hot composting • Trench composting • Aerated static pile composting	*This activity helps learners use what they've learned in a hands-on and creative way by imagining themselves as farm planners. It gives them a chance to make real-life decisions based on what's possible in their own community. At the same time, it builds their confidence, encourages creative thinking, and strengthens their ability to solve problems. These skills are important for someone working in agriculture today. It is **inclusive** because every learner gets a chance to design their own farm, allowing for differentiated responses that respect diverse learning styles, interests, and backgrounds. This activity is **integrative** integrating earlier knowledge like types of planting materials, crop characteristics, and environmental factors tying it all together in a meaningful context. Lastly, it is **innovative** allowing learners to think like young agricultural entrepreneurs, creatively planning for yield, sustainability, and resource management.*

	Each group selects **one** method and applies classroom learning to: 1. Choose appropriate organic materials 2. Identify tools and containers needed 3. Apply the principles of composting (C:N ratio, moisture, aeration, temperature) 4. Follow safety and sanitation standards 5. Simulate the actual setup in class or outdoors This activity serves as **scaffolding** for the unit performance task where learners must **produce organic fertilizer following proper procedures**. **Steps for Learners** 1. **Review What They Have Learned:** Learners recall the principles of organic composting and characteristics of the composting method they selected. 2. **Plan the Composting Setup:** Groups create a simple blueprint or sketch showing how they will arrange the composting system. 3. **Identify Materials and Tools:** Learner's list down: o organic waste materials o containers or pits o worms (if vermiculture) o pipes (if aerated static pile) o safety equipment 4. **Simulate or Construct the Setup:** Depending on available space, groups either: a. simulate using models, boxes, and sample materials b. or create an actual small compost pile/bin within school grounds	

	5. **Apply Composting Principles:** Groups demonstrate: o balancing greens and browns o adjusting moisture o ensuring aeration or limiting oxygen (anaerobic) o layering materials properly o labeling parts of their setup 6. **Short Group Presentation:** Groups explain how their composting system works and why it is appropriate for certain settings (home, farm, school, barangay). **Guide Questions for Application Phase** 1. How does your chosen composting method follow the principles of organic composting? 2. What materials are required to set up this composting system in real settings? 3. What challenges might you face in maintaining this composting method? 4. How does this method help reduce waste in your community? 5. Where (home, school, farm) can this composting method be applied most effectively? Why? **Reflection Questions (Individual Task)** 1. What new skills did you apply while designing or setting up the composting system? 2. Which composting method would you personally choose to use at home or in the community? Why? 3. How can producing organic fertilizers promote environmental responsibility? 4. What did you learn about teamwork and collaboration while completing this activity?	

	5. How can composting support sustainable agriculture in your local area? **2. Making Generalization** In this phase, learners draw conclusions and summarize the key takeaways from the lesson on **Producing Organic Fertilizers**. Through guided questions, students consolidate their understanding of how organic waste can be transformed into valuable fertilizers through different composting methods. • What common principles do all composting methods follow? • How does organic composting help improve soil and reduce waste? • What makes each composting method unique, and when is it best used? **3. EVALUATING LEARNING** ***Day 3 and 4*** **C. Performance Task (Skill Application)** **Title: *"Set Up a Simple Composting System"*** Learners will work individually or in pairs to: 1. Select one composting method (vermicomposting, anaerobic, tumbler, hot composting, trench, or aerated static pile). 2. Prepare materials needed for the setup. 3. Demonstrate steps in assembling their chosen composting method.	

4. Explain how the principles of composting are applied in their setup.

Performance Task Rubric: Composting Activity

Criteria	5 – Excellent (5 pts)	4 – Very Good (4 pts)	3 – Satisfactory (3 pts)	2 – Needs Improvement (2 pts)	1 – Poor (1 pt.)
1. Accuracy of Procedures	100% of steps are correct, complete, and in proper sequence (no errors).	80–99% of steps are correct; 1–2 minor errors but sequence is maintained.	60–79% of steps are correct; some steps incomplete or slightly out of order.	40–59% of steps are correct; several missing or incorrect steps.	Below 40% correct; procedure mostly incorrect or incomplete.
2. Proper Use of Materials	All materials (100%) are used correctly, efficiently, and safely at all times.	Most materials (80–99%) are used properly; minor misuse observed once.	Materials used adequately (60–79% correct use); occasional inefficiency or errors.	Frequent misuse (40–59% correct use); needs constant guidance.	Materials mostly misused (<40% correct use) or handled unsafely.
3. Application of Composting Principles	Applies all key principles correctly (C:N ratio, moisture, aeration) with no errors (100% accuracy).	Applies most principles correctly (80–99% accuracy); minor misunderstanding.	Applies basic principles (60–79% accuracy); some incorrect application.	Limited application (40–59% accuracy); major concepts misunderstood.	Little to no application (<40% accuracy); lacks understanding of principles.
4. Clarity of Explanation	Explanation is clear, complete, and organized; includes all key points (100% clarity, no gaps).	Mostly clear explanation (80–99%); minor missing details.	Adequate explanation (60–79%); some points unclear or lacking detail.	Explanation unclear (40–59%); several key points missing.	Explanation is confusing or off-topic (<40% clarity).

	Scoring Guide
	
	• **Total Score**: 20 points
	• **Performance Levels**:
	  ○ 18–20 = Excellent
	  ○ 14–17 = Very Good
	  ○ 10–13 = Satisfactory
	  ○ 6–9 = Needs Improvement
	  ○ 1–5 = Poor
	
	4. ADDITIONAL ACTIVITIES
	
	"My Home Composting Plan"
	Learners create a simple plan on how they could start composting at home using any method discussed (vermicomposting, anaerobic, hot composting, trench, etc.). They identify:
	• Available materials
	• Space in their home
	• Steps they will follow
	Purpose: Encourages environmental responsibility and practical application.	

VI. ASSESSMENT	*This section will serve as a culminating assessment intended to evaluate the entire unit, including both the Content Standard and the Performance Standard.* **1.** A group notices their compost pile smells rotten and attracts flies. What composting principle did they most likely fail to follow? A. Adding more carbon materials B. Keeping the pile well-aerated C. Increasing the amount of moisture D. Placing the compost under direct sunlight **2.** A learner wants a composting method that uses worms and produces very fine, nutrient-rich fertilizer. Which method should the learner use?	

	A. Hot composting B. Trench composting C. Vermiculture D. Aerated static pile **3.** Students are managing a compost tumbler but decomposition is slow. What action should they take? A. Stop adding new materials entirely B. Turn the tumbler more frequently C. Add only dried leaves D. Leave the tumbler closed for a month **4.**While setting up hot composting, the class observes that the pile is not heating up. Which step should they check first? A. If the pile is large enough and has balanced greens and browns B. If the compost is placed in a shaded area C. If worms were added to the pile D. If plastic waste was accidentally mixed in **5.** A student sees cafeteria waste being thrown into the regular trash. What is the MOST responsible action? A. Tell the janitor to ignore it B. Ask classmates to burn the waste C. Suggest that the waste be separated and used for composting D. Throw everything quickly so the area stays clean
VII. REFLECTION	Reflect on this Short Answer Questions 1. What are the basic principles of organic composting, and why are they important in producing high-quality organic fertilizer? 2. How do compost tumblers and trench composting contribute to effective organic waste management and soil fertility improvement?
VIII. USE OF GENERATIVE AI	In preparing this Learning Exemplar (LE), the author(s) used Copilot and ChatGPT to make more assistive in adding more references. The author(s) reviewed and finalized the writing of the content. The author(s) take(s) full responsibility for the content of this LE.

LESSON EXEMPLAR			
Learning Area	**ORGANIC AGRICULTURE PRODUCTION**	**Grade Level**	**11**
Term	**2**	**Lesson Exemplar**	**2**

I. OBJECTIVES	
A. Content Standard	*The learners demonstrate understanding of principles in overview of organic agriculture production, maintenance of farm tools, materials and equipment, establish nursery for organic vegetable production, planting, and harvest and post-harvest handling operation following industry practices.*
B. Performance Standard	*The learners perform maintenance of farm tools, materials and equipment, nursery establishment, planting operation and harvest and post-harvest handling operation following safety precautions*
C. Learning Competencies	*2. Perform harvest and post-harvest handling operations*
II. REFERENCES and MATERIALS	**References:** Agricultural Training Institute. Vegetable Production and Postharvest Handling. Quezon City, Philippines: ATI, 2020. Bureau of Plant Industry. Production Guide for High Value Crops. Manila, Philippines: Department of Agriculture, 2018. Department of Education. K to 12 Curriculum Guide: Agricultural and Fishery Arts (AFA). Pasig City, Philippines: Department of Education, 2016. Department of Agriculture. Philippine Good Agricultural Practices (PhilGAP) for Fruits and Vegetables Farming. Quezon City, Philippines: Bureau of Plant Industry, 2019. Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development. Vegetable Production Guide. Los Baños, Laguna, Philippines: PCAARRD, 2017. **Materials:** Actual vegetables (tomato, eggplant, pechay) Visual aids (pictures of vegetables at different maturity stages) Learning Activity sheets
III. CONTENT	Maturity indices of vegetable ko

IV. OBJECTIVES	At the end of the lesson, the learners should be able to A. Classify vegetables based on their maturity stage. B. Explain the maturity indices of vegetables such as color, size, and firmness. C. Demonstrate responsibility in selecting vegetables at the proper stage of maturity.	
V. PROCEDURES		**ANNOTATIONS**
A. Activating Prior Knowledge	**1. Activating Prior Knowledge** This part of the lesson helps learners recall and connect what they already know about **the appearance of vegetables** at harvest to the new topic, **Maturity Indices of Vegetables**." It serves as a bridge between their everyday experiences and the concepts of **harvesting**. **Activity 1:** "Ready or Not Ready" Identify whether the vegetables are ready for harvest or not yet ready. Raise the meta card "READY" if the vegetables presented are ready to harvest and "NOT READY" if they are not. *Generated by AI-Chatgpt: https://chatgpt.com/file_74dc7209*	*The teacher will ensure guided inquiry when asking questions to the learners.* *The SHS IDF present in this part of the plan is reflective. Reflective because the teacher's questions connect to learners' harvesting experiences.* *Activity 1:* *The teacher will facilitate the activity using meta cards.* *The teacher will use the suggested pictures or use realia of different vegetables.* *Show the meta cards or images of different vegetables that can be locally available in your school/community. Let learners identify if the vegetables*

	 Generated by AI-Chatgpt: https://chatgpt.com/file_d8e87209 *Generated by AI-Chatgpt: https://chatgpt.com/file_ba6071fa* *Generated by AI-Chatgpt: https://copilot.microsoft.com/VZea626cd7*	*presented are ready to be harvested or not.* To connect the lesson to the activity, ask the following questions to help learners process and synthesize the concept. Through this activity it will serve as a springboard to the lesson.

	Ask the learners the following Guide Questions: 1. With the activity you have done, what was your basis in determining that the vegetables are now ready to be picked? 2. What are the indicators you consider? **Activity 2: "Harvest of Ideas"** Ask the learners on their experiences in identifying if vegetables are ready to harvest. Discuss with their pair their ideas. **2. Establishing the Purpose of the Lesson** **Activity 1: "Market Day Decision"** Scenario 1: "You are a farmer preparing tomatoes to sell in the market tomorrow. However, you are unsure which tomatoes are ready for harvest. If you choose the wrong ones, your products may not sell well." Select from the six (6) images of vegetables that are ready to be picked. Select the letter of your answer. **A** **B** **C**	Activity 2. The teacher will measure the learners' ideas in identifying vegetables ready to harvest or not through presenting a scenario. Then let the learners choose which of the images is ready to be picked or reached its maturity.

	 D **E** **F** *Generated by AI-Chatgpt: https://bing.net/cECOccJ*	
B. Instituting New Knowledge	**PRESENTING EXAMPLES** Based on the previous illustrations, ask the learners: 1. What differences do you observe between the tomatoes? 2. Which one do you think is ready for harvest? Why? Present the maturity indices, such as color, size, and firmness, using the illustrations to determine if the vegetables are ready for harvest. **DISCUSSING NEW CONCEPT** **A. Key Terms/Concept** **What are Maturity Indices?** **Maturity indices** are the signs or indicators used to determine if a vegetable is ready for harvest. These indicators help farmers and gardeners harvest vegetables at the right time to ensure good quality, better taste, and longer shelf life. Harvesting vegetables too early or too late can affect their: A. Size B. Taste C. Texture D. Color E. Freshness	*Before proceeding with the discussion, the teacher will ask two processing questions to connect the previous activity to the lesson.* *The teacher may ask additional questions to ensure that the learners can follow.* *The teacher could also deliver the discussion in more creative and engaging learners. The teacher could modify this part.* *The teacher could also incorporate more contextualized and localized examples in order for the learners understand well the lesson and make them more familiar.*

	Common Maturity Indices of Vegetables **1. Color** The color of a vegetable changes as it matures. A mature vegetable usually has a brighter or deeper color. Examples: Tomato becomes red when mature. Squash changes from light green to yellow or orange. Eggplant develops a shiny deep purple color. **Importance:** Color helps identify if the vegetable is ready to harvest and eat. **2. Size** Vegetables reach the proper size at maturity. Farmers check standard sizes before harvesting. Examples: Okra should not be too small or too large. Cucumber is harvested when it reaches the right length and thickness. Corn becomes full and well-developed. **Importance:** Proper size indicates good development and better market quality. **3. Firmness** Firmness refers to how hard or soft the vegetable feels when touched. **Examples:** Cabbage becomes firm and compact when mature. Carrot becomes solid and hard. Tomato should be firm but not too hard. **Importance:** Firm vegetables stay fresh and are good for selling or cooking. **4. Shape**	*The teacher could also use real examples of vegetables to let learners experience more realistic experience.*

A mature vegetable has a complete and normal shape.

Examples:

Ampalaya becomes fully elongated.

Bell Pepper develops a round and full shape.

Importance:

Good shape shows healthy growth and proper maturity.

5. Age or Number of Days

Some vegetables are harvested by counting days after planting.

Examples:

Pechay may be harvested 30–45 days after planting.

Lettuce is harvested after several weeks, depending on the variety.

Importance:

Knowing the harvest period helps farmers plan proper harvesting time.

Importance of Knowing Maturity Indices

Knowing the maturity indices of vegetables helps:

1. produce high-quality vegetables
2. avoid early or late harvest,
3. increase market value
4. maintain freshness and taste
5. reduce waste and spoilage

B. Maturity Index Mapping

Using the table, write the correct description and example for each maturity indicator.

Maturity Indicator	Description	Example
Color		
Size		
Firmness		
Age		
Shape		

The teacher will use this table to strengthen the discussion and assess if the learners were really able to understand the lesson.

	DEVELOPING MASTERY **Activity 1: "Vegetable Maturity Station Rotation"** 1. Divide the class into small groups 2. Assign each group to a learning station with different vegetables or pictures showing various maturity stages. 3. Observe the color, size, and firmness of the vegetables in each station. 4. Record the observations in the learning activity sheet provided. 5. Each station has 3 minutes 6. Identify whether the vegetables are immature, mature, or over mature	To develop mastery, the teacher will assign this group activity to promote collaboration and engagement. Through this activity the learners will be able to collaborate and gather more information based from the experience and insights of other learners.
C. Demonstrating Knowledge and Skills	**FINDING PRACTICAL APPLICATION** **Activity 1: "Smart Harvesting"** Directions: Here are 10 photos of vegetables, based from the discussion pick or select which of the following images are ready to be picked. "You are a farmer preparing to harvest vegetables to sell in the market tomorrow. You must choose the correct vegetables to ensure good quality and better income." 1. *Generated by AI-Chatgpt: https://garden.eco/eggplants*	By using realia or photos of various vegetables. Let the learners decide and pick which of the following vegetables are ready to be picked. They will apply the concept they learned from the discussion.

	2. *Generated by AI-Chatgpt: https://openai.com/LhdvoVxx* 3. *Generated by AI-Chatgpt: https://ftcdn.net/570241113* 4. *Generated by AI-Chatgpt: https://openai.com/eeepSIKez*	

	5. *Generated by AI-Chatgpt: https://openai.com/q0mbwPG0* 6. *Generated by AI-Chatgpt: https://openai.com/V0oTvsGP* 7. *Generated by AI-Chatgpt: https://openai.com/y_6Mo9UDP*	

	8. *Generated by AI-Chatgpt: https://openai.com/ROHQ8vsY* 9. *Generated by AI-Chatgpt: https://openai.com/zuBXtO806* 10. *Generated by AI-Chatgpt: https://openai.com/VZrrHLAiQ*	***MAKING GENERALIZATION***

MAKING GENERALIZATION

Ask the learners:

1. What are maturity indices?
2. Why are they important in vegetable production?

Ask the 2 questions to test the generalization skills of the learners.

Expected answer: "Maturity indices are indicators such as color, size, and firmness that help determine the right time to harvest vegetables to ensure good quality and reduce waste."

EVALUATING LEARNING

Activity 1: "Identify One!"

Identify at least one (1) vegetable that you can see in your school. Identify and classify whether the selected vegetable is ready to harvest based on the maturity stage. Explain the maturity indices that can be observed to the selected vegetables.

EVALUATING LEARNING

Evaluate the learner's ability to determine the vegetables that are ready to be picked. Through this activity, you can use it to evaluate the level of learning of the learners. Use the provided criteria to evaluate the learner's ability.

Criteria	Excellent (4 pts)	Good (3 pts)	Fair (2 pts)	Needs Improvement (1 pt)
Identification of Vegetable	Correctly identifies a specific vegetable found in the school	Identifies a vegetable with minor error	Identifies a vegetable but unclear or too general	Cannot identify a vegetable correctly
Classification (Ready/Not Ready)	Correctly classifies maturity stage with clear decision	Correct classification but lacks strong justification	Classification is somewhat correct but uncertain	Incorrect classification

Observation of Maturity Indices	Clearly describes observable indices (color, size, firmness) in detail	Describes at least 2 indices correctly	Describes only 1 index or lacks clarity	No clear or incorrect observation
Explanation/Reasoning	Provides clear, logical explanation connecting indices to decision	Explanation is understandable but lacks depth	Explanation is weak or partially correct	No clear explanation provided

Rubrics

ADDITIONAL ACTIVITIES

Activity 1: " Ready Get Set Go!"

In your home or in your community, observe different vegetables. Identify at least three (3) vegetables and describe their maturity indicators such as color, size, and firmness. Decide whether each vegetable is ready for harvest or not.

Use the given format:

Vegetable Name	Maturity Indicators	Ready for Harvest/ Not Ready	Reason
1.			
2.			
3.			

The output will be graded to the rubrics below:

ADDITIONAL ACTIVITIES

To ensure continuous learning and real time experience, and allowing learners to experience and understand that the lesson could be applied in real life situation, let them observe the available vegetables in their community or neighborhood.

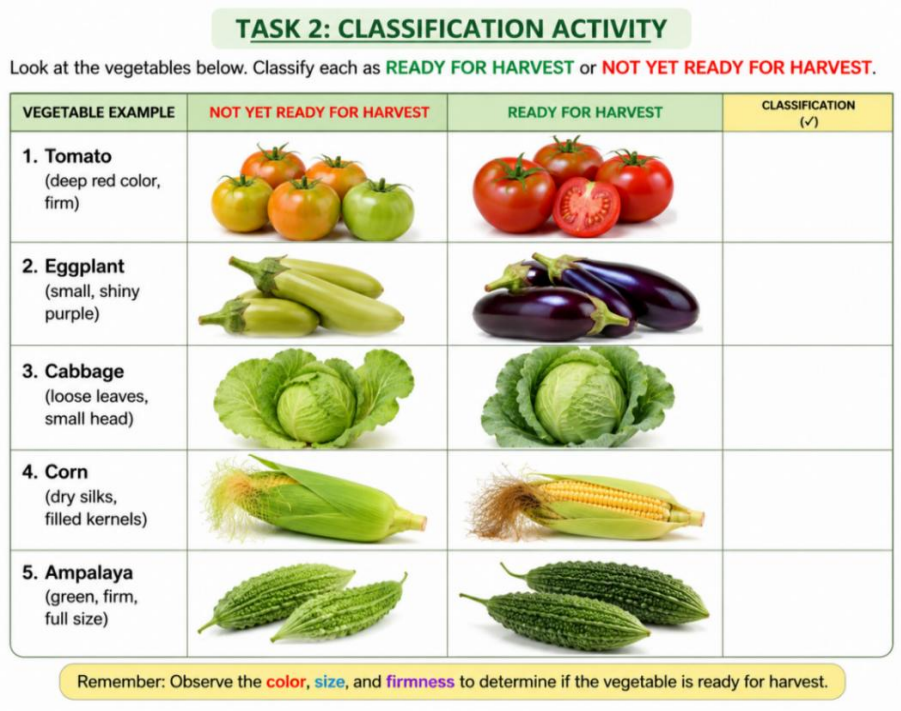
Let learners accomplish this additional activity to ensure and strengthened the mastery of the lesson and let them apply in their community or neighborhood.

Use the rubrics provided to rate their output and the scoring guide.

Criteria	Excellent (4 pts)	Good (3pts)	Fair (2pts)	Needs Improvement (1 pt)
Identification of Vegetables	Identifies 3 or more vegetables correctly	Identifies 3 vegetables with minor errors	Identifies only 2 vegetables correctly	Less than 2 or incorrect identification
Accuracy of Maturity Indicator	Clear, accurate, and complete description (color, size, firmness, etc.)	Mostly accurate with minor missing details	Limited or partially correct description	Inaccurate or unclear description
Classification (Ready/ Not Ready	All classifications are correct and well-justified	Mostly correct classification with slight errors	Some correct, some incorrect classification	Mostly incorrect classification
Explanation/Reasoning	Clear and logical reasons for decisions	Adequate explanation but not fully detailed	Simple or unclear explanation	No clear explanation provided

Scoring Guide:

13–15 points – Outstanding
10–12 points – Very Satisfactory
7–9 points – Satisfactory
1–6 points – Needs Improvement

VI. ASSESSMENT	**ASSESSMENT:** A. Read and analyze the following questions. Answer in 2-3 sentences. 1. What are maturity indices of vegetables? 2. Give three (3) examples of maturity indices. 3. Why is it important to consider maturity indices before harvesting vegetables? B. Study each vegetable. Classify each as Ready for Harvest or Not Yet Ready For Harvest  *Generated by AI-Chatgpt: https://chatgpt.com/file_985071fd* C. Answer the questions in 2-3 sentences. Explain your idea clearly and show responsibility and good decision-making in your answer. "Why is it important for farmers or gardeners to carefully choose vegetables at the correct stage of maturity?"

VII. REFLECTION	Reflect on this Short Answer Questions 1. What did you learn about the importance of maturity indices in harvesting vegetables? 2. How can you apply what you learned in your home, community garden, or future farming activities? 3. How does proper harvesting show responsibility as a learner or future farmer?
VIII. USE OF GENERATIVE AI	In preparing this Learning Exemplar (LE), the author(s) used Copilot and ChatGPT in order to make more assistive in adding more references. The author(s) reviewed and finalized the writing of the content. The author(s) take(s) full responsibility for the content of this LE.

LESSON EXEMPLAR			
Learning Area	**ORGANIC AGRICULTURE PRODUCTION**	**Grade Level**	**11**
Term	**2**	**Lesson Exemplar**	**3**

I. OBJECTIVES	
A. Content Standard	*The learners demonstrate understanding of principles in overview of organic agriculture production, maintenance of farm tools, materials and equipment, establish nursery for organic vegetable production, planting, and harvest and post-harvest handling operation following industry practices.*
B. Performance Standard	*The learners perform maintenance of farm tools, materials and equipment, nursery establishment, planting operation and harvest and post-harvest handling operation following safety precautions*
C. Learning Competencies	*2. Perform harvest and post-harvest handling operations*
II. REFERENCES and MATERIALS	**References:** Food and Agriculture Organization. (n.d.). Post-harvest handling and management of crops. Food and Agriculture Organization. (n.d.). Harvesting and post-harvest practices for vegetables. TESDA. (n.d.). Organic Agriculture Production NC II Training Regulations. **Materials:** Manila paper, marker, vegetable pictures, knife, scissors, basket, gloves, worksheets
III. CONTENT	Harvesting
IV. OBJECTIVES	At the end of the lesson, the learners should be able to 1. Identify proper harvesting methods and correct harvesting schedules of common vegetables. 2. Perform appropriate harvesting techniques using proper tools. 3. Show responsibility and care in harvesting using appropriate tools.

V. PROCEDURES		**ANNOTATIONS**
A. Activating Prior Knowledge	**1. Activating Prior Knowledge** This part of the lesson helps learners recall and connect what they already know about the **maturity indices of vegetables to** the new topic of methods of harvesting and harvesting schedules. It serves as a	**Activating Prior Knowledge** Activity 1: The teacher will use PowerPoint presentation to present the illustration.

	bridge between their everyday experiences and the concepts of **harvesting vegetables**. **Activity 1: Picture Analysis (Think-Pair-Share)** Directions: For 5 minutes, study, analyze and compare the images on the screen. *Generated by AI-Chatgpt: https://l1nq.com/6e4i4u2* **Activity 2: "Harvest Stories"** Directions: Answer the following questions. Write your answers on a ½ sheet of paper. Volunteers are encouraged to share their answers afterward. 1. *Have you experienced strawberry picking in Baguio*? 2.*What vegetable plants do you have at home?* *3.When do you usually pick them, what are the signs that you consider before picking them?*	Present pictures of vegetables (ripe and unripe) to the class using printed materials. Observe the presented vegetables, focusing on the color, size, and appearance. Let them observe the image or realia for 5 minutes. Pair the learners and allow them to discuss their answer with their partners. Ask 2-3 pairs to explain their ideas to the class. Ask the guide questions: "Which vegetables do you think are ready for harvest*? Why?"* Activity 2: Let learners process their observations and ideas on the images they observed. Ask 2-3 learners to read and share their works in front of the class. After each sharing, ask a follow-up question: "*How about the others? Do you do the same, or do you have other ideas to share with the class?"* Present a short scenario to the class: "A farmer harvested vegetables too early and handled them roughly. When sold in the market, many were damaged and not bought by customers." Ask the guide question:

	2. Establishing the Purpose of the Lesson **Activity 1: "What Went Wrong?"** *Generated by AI-Chatgpt:* *https://copilot.microsoft.com/th/id/BCO.fc777a4f*	*"What do you think went wrong in the scenario?"* Ask 2-3 learners to share their answers orally and ask the follow-up question: *"Why is it important to be knowledgeable when it is good to harvest the vegetables? Why is proper handling and managing them important?"*
B. Instituting New Knowledge	**PRESENTING EXAMPLES** **Activity 1: "Spot the Difference"** Directions: For 5 minutes study the following images, after which volunteers will share their ideas and observations. 	**Activity 1:** "Spot the Difference" The learners will carefully observe the differences of the pictures.

Generated by AI-Chatgpt: https://sl1nk.com/xivae1r

Ask the learners which practices are correct? What makes it correct? Ask 2-3 learners to share their answers and explain.

DISCUSSING NEW CONCEPT

What is Harvesting?

Harvesting is the process of gathering mature crops from the field. It is done when vegetables reach the proper stage of maturity to ensure good quality, freshness, and better market value.

Proper harvesting is important because it helps:
1. maintain the quality of vegetables
2. prevent damage and spoilage
3. increase farmers' income
4. provide fresh and nutritious food

Methods of Harvesting

Different vegetables require different methods of harvesting depending on their size, type, and maturity.

1. Hand Harvesting
Hand harvesting means picking vegetables manually using the hands or simple tools such as knives or scissors.

Before the teacher will proceed with the discussion the teacher will ask 1 processing question to connect the previous activity to the lesson.

The teacher could also deliver the discussion in more creative and engaging learners. The teacher could modify this part.

	Examples: Tomato, Eggplant, Okra **Advantages:** ✓ Prevents damage to vegetables ✓ Easy to select mature vegetables ✓ Suitable for delicate crops **Disadvantages:** ✓ Time-consuming ✓ Requires more labor **2. Cutting Method** Some vegetables are harvested by cutting the stem or plant part using a knife or bolo. Cutting helps avoid damaging the plant and keeps the vegetable fresh. Examples: Cabbage, Lettuce, Pechay Importance: **3. Pulling Method** Root crops are commonly harvested by pulling them from the soil. Examples: Carrot, Radish **4. Twisting or Snapping Method** Some vegetables are harvested by twisting or snapping them gently from the plant. This method is quick and easy when done carefully. Examples: Cucumber, Bell Pepper	The teacher could also incorporate more contextualized and localized examples in order for the learners understand well the lesson and let them more familiar. The teacher could also use real examples of vegetables to let learners experience more realistic experience

Harvesting Schedule
Harvesting schedule is the planned time or proper schedule for harvesting crops. It helps farmers know when and how often vegetables should be harvested.

Harvesting schedules depend on:
1. type of vegetable
2. maturity stage
3. weather condition
4. market demand

Importance of Harvesting Schedule
A proper harvesting schedule helps:
1. maintain vegetable quality
2. reduce spoilage and waste
3. ensure continuous supply in the market
4. organize farm activities properly

Examples of Harvesting Schedule

Vegetable	Approximate Harvest Time
Pechay	30–45 days after planting
Okra	45–60 days after planting
Tomato	60–85 days after planting
Eggplant	70–90 days after planting
Corn	60–80 days after planting

Proper Time of Harvesting
Vegetables are commonly harvested early in the morning and late in the afternoon because the temperature is cooler and vegetables stay fresh longer.

Avoid harvesting during very hot weather and heavy rain because vegetables may wilt or spoil easily.

DEVELOPING MASTERY

Activity 1: Identify the Harvesting Information

Directions: Complete the table by selecting 1 vegetable of your choice and provide necessary information asked like providing the harvesting method, proper tool to be used and harvesting schedule of the vegetable of your groups choice.

Vegetable	Harvesting Method	Proper Tool	Harvesting Schedule

Your output will be grades according to the following criteria.

Criteria	4 – Excellent	3 – Good	2 – Fair	1 – Needs Improvement
Identification of Vegetable	Correctly identified the vegetable.	Identified the vegetable with minor error.	Identified the vegetable with assistance.	Unable to identify the vegetable correctly.
Harvesting Method	Correctly identified the proper harvesting method.	One minor mistake in identifying the harvesting method.	Several mistakes in identifying the harvesting method.	Unable to identify the harvesting method.

The teacher will divide the class into small groups. Each group will choose at least one (1) vegetable.
Complete the table provided. Let the learners accomplish this for 10 minutes and present their outputs in the class.

Use the criteria provided to rate the output of the learners.

Proper Tool	Correctly identified the appropriate harvesting tool.	One minor mistake in identifying the tool.	Several mistakes in identifying the tool.	Unable to identify the proper tool.	
Harvesting Schedule	Correctly identified the harvesting schedule.	One minor mistake in the harvesting schedule.	Several mistakes in the harvesting schedule.	Unable to identify the harvesting schedule.	
Group Participation	All members actively participated and cooperated.	Most members participated.	Few members participated.	Group showed little to no cooperation.	

Scoring Guide

Score	**Description**
17–20	Outstanding
13–16	Very Satisfactory
9–12	Satisfactory
5–8	Needs Improvement

C. Demonstrating Knowledge and Skills

FINDING PRACTICAL APPLICATION
Activity 1: "Hands-On Harvest"

Directions:

Directions:

Execute the proper harvesting procedures. You will be graded according to proper observation on the harvesting process, proper handling,

The teacher will prepare a real vegetables or improvised materials. The teacher will use the previous groupings, each group will demonstrate correct way of harvesting. Each group will perform a harvest simulation using the given materials.

following proper procedures, and participated actively in the group. You will perform 1 group at a time.

Criteria	Yes (✓)	No (✗)
1. Applied correct harvesting method (e.g., proper picking or cutting)	☐	☐
2. Handled crops carefully to avoid damage	☐	☐
3. Followed instructions and demonstrated the procedure correctly	☐	☐
4. Participated actively in the group activity	☐	☐

Scoring Guide:

4 ✓ = Outstanding
3 ✓ = Very Satisfactory
2 ✓ = Satisfactory
1 ✓ = Needs Improvement

MAKING GENERALIZATION

Directions: Create a 'To-Do' List identifying the important things to consider and the indicators that determine the right time to harvest vegetables. Write at least 10 and pick 3 learners to read their answers"

The teacher will use the criteria for grading.

Let the learners create a 'To-Do' List identifying the important things to consider and the indicators that determine the right time to harvest vegetables. Write at least 10 and pick 3 learners to read their answers

Quick evaluate the learners by asking 3 evaluating questions.

Ask some of the learners to share their answers.

EVALUATING LEARNING

Activity 1: "Quick Check"

Directions: Answer the following questions briefly and concisely. Write their answers on a clean sheet of paper. 3 sentences per item will be enough.

1. When is the best time to harvest vegetables?
2. Why is proper handling of harvested vegetables important?
3. What is one method used in harvesting vegetables?

ADDITIONAL ACTIVITIES

Ask the learners to look for one (1) vegetable available at home or within the school premises. Instruct them to carefully observe the vegetable based on its color, size, and firmness. Using the provided checklist, determine whether the vegetable is ready for harvest or not. Attach or draw a picture/photo of their chosen vegetable.

Indicators	Yes	No
1. The vegetable has the proper color for harvesting.	☐	☐
2. The vegetable has reached the proper size.	☐	☐
3. The vegetable feels firm and fresh.	☐	☐
4. The vegetable looks healthy and not damaged.	☐	☐
5. The vegetable appears mature and ready for harvest.	☐	☐

To ensure continuous learning and real time experience, and allowing learners to experience and understand that the lesson could be applied in real life situation, let them observe the available vegetables in their community or neighborhood.

Let learners accomplish this additional activity to ensure and strengthened the mastery of the lesson and let them apply in their community or neighborhood.

Use the rubrics provided to rate their output and the scoring guide.

<table>
<tr>
<td>VI. ASSESSMENT</td>
<td>
ASSESSMENT:

Activity: “Harvest and Explain”

Provide each learner a real or improvised vegetables e.g., tomato, eggplant, petchay.

Determine if the vegetable is ready for harvest or not. Identify the appropriate harvesting method and best time after harvesting. Individually perform or simulate the correct harvesting or simulate the correct harvesting technique. Ask the learners the following questions:

1. Why the vegetable is ready or not ready?
2. How proper handling prevents damage?
Rubrics
<table>
<tr><th>Criteria</th><th>✓ (Yes)</th><th>✗ (No)</th></tr>
<tr><td>Identified correct maturity, method, and schedule</td><td>☐</td><td>☐</td></tr>
<tr><td>Demonstrated proper harvesting technique</td><td>☐</td><td>☐</td></tr>
<tr><td>Handled the crop carefully</td><td>☐</td><td>☐</td></tr>
<tr><td>Gave clear explanation</td><td>☐</td><td>☐</td></tr>
</table>
Scoring Guide:
4 ✓ = Outstanding
3 ✓ = Very Satisfactory
2 ✓ = Satisfactory
1 ✓ = Needs Improvement
</td>
</tr>
<tr>
<td>VII. REFLECTION</td>
<td>
Ask the learners about the following questions:
1. What did you learn about proper harvesting?
2. Why is it important to handle crops carefully?
3. How can you apply this learning at home or in your community?
</td>
</tr>
<tr>
<td>VIII. USE OF GENERATIVE AI</td>
<td>In preparing this Learning Exemplar (LE), the author(s) used ChatGPT in order to make more assistive in adding more references. The author(s) reviewed and finalized the writing of the content. The author(s) take(s) full responsibility for the content of this LE.</td>
</tr>
</table>

LESSON EXEMPLAR			
Learning Area	**ORGANIC AGRICULTURE PRODUCTION**	**Grade Level**	**11**
Term	**2**	**Lesson Exemplar**	**4**

I. OBJECTIVES	
A. Content Standard	*The learners demonstrate understanding of principles in overview of organic agriculture production, maintenance of farm tools, materials and equipment, establish nursery for organic vegetable production, planting, and harvest and post-harvest handling operation following industry practices.*
B. Performance Standard	*The learners perform maintenance of farm tools, materials and equipment, nursery establishment, planting operation and harvest and post-harvest handling operation following safety precautions*
C. Learning Competencies	*Perform harvest and post-harvest handling operations*
II. REFERENCES and MATERIALS	References: Bautista, Ofelia C. *Principles of Organic Agriculture*. Quezon City, Philippines: Lorimar Publishing Inc., 2018. Department of Education. *Organic Agriculture Production Curriculum Guide*. Pasig City, Philippines: DepEd, 2016. Department of Education. *K to 12 Learning Module in Agriculture and Fishery Arts*. Pasig City, Philippines: DepEd Learning Resources Management and Development System, 2016. Department of Agriculture. *Postharvest Handling Practices for Vegetables*. Quezon City, Philippines: Department of Agriculture, 2020. Food and Agriculture Organization. *Post-Harvest Management of Fruits and Vegetables*. Rome, Italy: FAO, 2019. Medina, Roberto B. Postharvest Technology of Horticultural Crops. Los Baños, Laguna, Philippines: University of the Philippines Los Baños Press, 2017. Materials: Harvested vegetables (eggplant, tomato, pechay, okra, squash, string beans)

	Crates, baskets, weighing scale, trays Manila paper and marker Meta cards Pictures of damaged and good quality vegetables Activity sheets and checklist Rubrics Mobile phone/tablet for documentation (if available)	
III. CONTENT	Post-harvest handling operations	
IV. OBJECTIVES	At the end of the lesson, the learners should be able to 1. Explain the importance of proper post-harvest handling operations such as trimming, sorting and sizing 2. Perform proper trimming, sorting, and sizing of harvested vegetables based on quality and size. 3. Demonstrate responsibility and cooperation in handling harvested vegetables carefully to reduce post-harvest losses.	
V. PROCEDURES		**ANNOTATIONS**
A. Activating Prior Knowledge	**1. Activating Prior Knowledge** **Activity 1: " Market Basket Challenge"** ● Observe the vegetables displayed inside the basket. ● Identify which vegetables are fresh, damaged, large-sized, or small-sized. ● Classify the vegetables according to their quality and size. ● Ask 3 learners to share answers to the class. **Activity 2: " Think-Pair-Share"** Ask the learners to recall their experience in buying or harvesting vegetables. Discuss with their partner why farmers sort and grade vegetables. Ask 3 pairs to share their ideas with the class.	**Activating Prior Knowledge** Activity 1: The teacher prepares actual vegetables commonly found in the community and guides learners in identifying the characteristics of quality produce. The activity develops learners' understanding of proper post-harvest handling. Activity 2: The teacher encourages learners to connect the lesson with real-life agricultural practices and promotes active participation from all learners.

	2. Establishing the Purpose of the Lesson Analyze the picture showing proper and improper post-harvest handling. Predict what may happen when vegetables are not handled properly after harvest. Ask 2 learners to share their insight to the class *Generated by AI-ChatGPT: https://binged.it/3V9QYwT*	**Establishing the Purpose of the Lesson** The teacher guides learners in connecting the lesson to actual farming practices in the community. Emphasize the importance of reducing post-harvest losses and maintaining vegetable quality. After the activity, the teacher will present the objectives of the lesson.
A. Instituting New Knowledge	**PRESENTING EXAMPLES** **Activity 1: " Sort Me Right"** 1. Divide the learners into small group. 2. Observe the sets of vegetables presented. 3. Identify which vegetables belong to: Good, damaged, large-sized, and small-sized produce. 4. Place the vegetables in their proper labeled containers 5. Explain the basis of the classification.	*Activity 1: The teacher provides actual or improvised vegetables for hands-on classification. Ensure learners work collaboratively and safely while handling produce.*

Generated by AI-ChatGPT: https://binged.it/3K7hXwE

DISCUSSING NEW CONCEPT

Post-Harvest Handling Operations

Post-harvest handling operations are important practices done after harvesting vegetables to maintain their quality, freshness, and market value. Proper handling helps reduce damage, spoilage, and post-harvest losses.

1. Trimming
- Trimming is the process of removing unwanted, damaged, or excess plant parts from harvested vegetables.

The teacher discusses the concepts using actual examples, visual aids, and contextualized situations from community farming practices. Encourage learners to connect concepts with their experiences.

	Examples: ● Removing damaged leaves from pechay ● Cutting excess roots from carrots ● Removing dried stems from vegetables **Importance of Trimming:** ✓ Improves the appearance of vegetables ✓ Prevents the spread of decay ✓ Makes vegetables clean and marketable ✓ Increases selling value **Proper Trimming Practices:** ✓ Use clean and sharp tools ✓ Handle vegetables gently ✓ Remove only unnecessary parts ✓ Avoid bruising the produce **2. Sorting** Sorting is the process of separating vegetables according to their quality, condition, and appearance. **Vegetables are sorted into:** ● Good quality produce ● Damaged produce ● Diseased produce ● Fresh produce **Importance of Sorting:** ● Prevents damaged vegetables from affecting good produce ● Maintains product quality ● Makes marketing easier ● Helps consumers receive quality vegetables	

	Proper Sorting Practices: • Separate bruised or rotten vegetables • Group vegetables carefully • Observe cleanliness during sorting • Handle produce properly to avoid damage **3. Sizing** Sizing is the process of classifying vegetables according to their size, weight, or shape. **Examples:** • Large-sized eggplants • Medium-sized tomatoes • Small-sized okra **Importance of Sizing:** • Provides uniformity in packaging • Improves market presentation • Helps determine product price • Makes packing and transport easier **Proper Sizing Practices:** • Use measuring tools or visual comparison • Group vegetables with similar sizes • Avoid mixing large and small produce • Handle vegetables carefully during classification	

DEVELOPING MASTERY

Activity 1: " Flowchart Creation"

1. Using the previous groupings.
1. Create a flowchart showing the correct post-harvest handling procedures.
2. Present the flowchart creatively.
3. Use the Rubrics for grading the outputs of the learners

Criteria	Excellent (5)	Very Satisfactory (4)	Satisfactory (3)	Needs Improvement (2)
Accuracy of Procedures	All post-harvest handling procedures are correctly arranged and complete.	Most procedures are correct with minor errors.	Some procedures are incomplete or incorrectly arranged.	Procedures are mostly incorrect or incomplete.
Creativity and Presentation	Flowchart is highly creative, neat, and visually appealing.	Flowchart is creative and organized.	Flowchart is simple but understandable.	Flowchart lacks creativity and organization.
Collaboration and Participation	All members actively participated and cooperated.	Most members participated actively.	Some members participated.	Few members participated.

Activity 1:
The teacher facilitates collaborative learning and encourages creativity while learners organize the procedures logically.

	<table><tr><td>Clarity and Organization</td><td>Ideas are very clear and logically arranged.</td><td>Ideas are clear and mostly organized.</td><td>Ideas are somewhat organized.</td><td>Ideas are unclear and poorly organized.</td></tr></table> **Scoring Guide** 16–20 = **Outstanding** 11–15 = **Very Satisfactory** 6–10 = **Satisfactory** 1–5 = **Needs Improvement**	
B. Demonstrating Knowledge and Skills	**FINDING PRACTICAL APPLICATION** **Activity 1: "Post-Harvest Station Rotation"** 1. Observe harvested vegetables from the school garden or available vegetables at home. 2. Perform trimming, sorting, sizing and grading. 3. Separate damaged produce from quality produce. 4. Complete the post-harvest checklist. 5. Explain how proper handling can help farmers and consumers. 6. Use the checklist for the grading of the activity. <table><tr><th>Criteria</th><th>✓ / ✗</th></tr><tr><td>1. Observed harvested vegetables carefully.</td><td></td></tr><tr><td>2. Performed trimming properly.</td><td></td></tr><tr><td>3. Performed sorting correctly.</td><td></td></tr><tr><td>4. Classified vegetables according to size.</td><td></td></tr><tr><td>5. Graded vegetables according to quality.</td><td></td></tr><tr><td>6. Correctly separated damaged produce from quality produce.</td><td></td></tr></table>	*Activity 1:* *The teacher facilitates authentic and community-based learning experiences. Emphasize proper handling, teamwork, inclusivity, and safety practices.*

7. Followed proper handling and safety practices.	
8. Participated actively in the activity.	
9. Worked cooperatively with group members.	
10. Completed the post-harvest checklist/activity sheet.	
11. Explained how proper handling helps farmers and consumers.	

Scoring Guide
10–11 ✓ = Outstanding
8–9 ✓ = Very Satisfactory
6–7 ✓ = Satisfactory
1–5 ✓ = Needs Improvement

MAKING GENERALIZATION

1. Ask the learners to complete the statement:
"Proper post-harvest handling is important because _____."
2. Share one learning gained from the lesson.
3. Explain how post-harvest handling can reduce food waste.

EVALUATING LEARNING
Read each statement carefully. Identify whether the statement describes **Trimming, Sorting, Sizing, or Grading.** Write your answer on the space provided.

1. Removing damaged leaves, roots, or unwanted parts of vegetables before storage or selling.
Answer: Trimming

The teacher synthesizes learners' responses and reinforces the importance of proper post-harvest handling in agriculture and daily life.

The teacher uses formative assessment strategies to evaluate learners' understanding, practical skills, and values formation.

	2. Separating vegetables according to their quality such as good, damaged, or defective produce. **Answer: Sorting** 3. Grouping vegetables according to their physical dimensions such as small, medium, or large. **Answer: Sizing** 4. Classifying vegetables based on overall appearance, freshness, and market quality. **Answer: Grading** 5. Cutting off excess stems and spoiled portions of harvested vegetables. **Answer:Trimming** 6. Arranging vegetables according to similar sizes to make packaging easier. **Answer: Sizing** 7. Separating cracked, bruised, or rotten vegetables from fresh and healthy produce. **Answer: Sorting** 8. Determining which vegetables are premium quality and which are lower quality. **Answer: Grading** 9. Removing unnecessary plant parts to improve the appearance of vegetables. **Answer: Trimming** 10. Organizing harvested vegetables into categories based on size and shape. **Answer: Sizing** **ADDITIONAL ACTIVITIES** 1. Visit a nearby market, home garden, or farm. 2. Observehow vegetables are handled after harvest. 3. Interview a farmer, vendor, or family member about post-harvest practices. 4. Write a short reflection about the importance of proper post-harvest handling.	*The teacher extends learning beyond the classroom through experiential and contextualized activities that strengthen community connections.*

Criteria	Advanced (4)	Proficient (3)	Developing (2)	Beginning (1)
Examination of Post-Harvest Practices	Thoroughly examines and identifies all post-harvest practices accurately.	Examines most practices with minor missing details.	Examines some practices but lacks important details.	Shows limited examination of practices.
Communication During Interview	Interacts confidently and gathers complete and relevant information.	Communicates well and gathers enough information.	Communicates with limited information gathered.	Shows difficulty in communicating and gathering information.
Reflection Writing	Presents a clear, meaningful, and insightful reflection about proper post-harvest handling.	Presents a good reflection with minor gaps in understanding.	Presents a simple reflection with limited explanation.	Presents an unclear or incomplete reflection.
Application to Community Practices	Relates post-harvest handling practices effectively to community experiences.	Relates practices to the community with minor gaps.	Shows limited connection to community practices.	Fails to relate practices to the community.

	Organization and Submission	Submits a complete, neat, and organized output on time.	Submits a mostly complete and organized output.	Submits an incomplete or poorly organized output.	Fails to submit or submits a very incomplete output.	
	Scoring Guide 17–20 points – Advanced 13–16 points – Proficient 9–12 points – Developing 5–8 points – Beginning					
VI. ASSESSMENT	**ASSESSMENT:** Directions: Read each situation carefully and choose the best answer. 1. After harvesting vegetables in the school garden, a group of students noticed that some leaves were wilted and damaged. They removed these parts before packing. What post-harvest operation did they perform? A. Harvesting B. Sizing C. Sorting D. Trimming 2. A vendor is preparing vegetables for display. She separates good-quality tomatoes from those that are bruised or overripe. What process is being applied? A. Grading B. Packaging C. Sizing D. Sorting 3. Before selling carrots, a farmer groups them into small, medium, and large sizes. What post-harvest activity is being demonstrated? A. Grading B. Sizing C. Sorting D. Trimming					

	4. A buyer prefers vegetables that are uniform in size and appearance. A farmer prepares his produce accordingly. Which practice helps meet this market demand? A. Harvesting B. Sizing C. Sorting D. Watering 5. During post-harvest activity, students noticed some vegetables had insect damage. They separated them from the good ones. What is the main purpose of this action? A. Reduce quality B. Increase weight C. Improve storage D. Maintain freshness 6. A farmer wants to increase the market value of his vegetables. He removes unwanted roots and leaves before selling. What is the effect of this practice? A. Faster growth B. Lower quality C. Larger harvest D. Better appearance 7. In a cooperative, members carefully handle vegetables to avoid bruising during packing. What value is being demonstrated? A. Competition B. Indifference C. Laziness D. Responsibility 8. A group of learners mixes damaged vegetables with fresh ones during packing. What is the likely consequence? A. Better quality B. Faster selling C. Higher price D. Lower market value

	9. A farmer sorts vegetables based on size and quality before transporting them to the market. What is the combined purpose of this practice? A. Delay harvest B. Reduce waste C. Improve pricing D. Increase spoilage 10. During a school activity, students work together to complete trimming, sorting, and sizing tasks efficiently. What skill is most evident? A. Individual effort B. Random selection C. Team coordination D. Competitive behavior 11. A vegetable buyer refuses to purchase a batch because it contains mixed sizes and damaged produce. What could have prevented this situation? A. Proper sorting B. Proper watering C. Proper planting D. Proper trimming 12. A farmer removes excess stems and damaged parts from harvested cabbage. What operation is being applied? A. Grading B. Sizing C. Sorting D. Trimming 13. Vegetables are classified into premium, standard, and low quality before being sold. What process is being described? A. Grading B. Sizing C. Sorting D. Trimming

	14. Students observe that careful handling of vegetables reduces losses during transport. What concept does this best illustrate? A. Soil fertility B. Plant growth C. Seed germination D. Post-harvest losses 15. A farmer carefully separates vegetables based on both size and quality before packaging. Which statement best describes this practice? A. It changes crop type B. It reduces harvest time C. It improves market value D. It increases soil nutrients Answer Key: 1. D 6. D 11. A 2. D 7. D 12. D 3. B 8. D 13. A 4. B 9. C 14. D 5. D 10. C 15. C
VII. REFLECTION	Ask the learners to complete the statement. 1. I learned that proper post-harvest handling _____. 2. The activity helped me understand _____. 3. I can apply this lesson at home or in the community by _____.
VIII. USE OF GENERATIVE AI	In preparing this Learning Exemplar (LE), the author(s) used ChatGPT in order to make more assistive in adding more references. The author(s) reviewed and finalized the writing of the content. The author(s) take(s) full responsibility for the content of this LE.

LESSON EXEMPLAR			
Learning Area	**ORGANIC AGRICULTURE PRODUCTION**	**Grade Level**	**11**
TERM	**2**	**Lesson Exemplar**	**5**

I. OBJECTIVES	
A. Content Standard	*The learners demonstrate understanding of principles in overview of organic agriculture production, maintenance of farm tools, materials and equipment, establish nursery for organic vegetable production, planting, and harvest and post-harvest handling operation following industry practices.*
B. Performance Standard	*The learners perform maintenance of farm tools, materials and equipment, nursery establishment, planting operation and harvest and post-harvest handling operation following safety precautions*
C. Learning Competencies	*2. Perform harvest and post-harvest handling operations*
II. REFERENCES and MATERIALS	**References** Department of Education. Technology and Livelihood Education – Agricultural Crop Production Learning Module. Manila, Philippines: DepEd Bureau of Learning Resources, 2023. Food and Agriculture Organization. Post-Harvest Management of Fruits and Vegetables. Rome: FAO, 2021. Republic of the Philippines Department of Agriculture. Organic Agriculture Practices and Standards Manual. Quezon City: Department of Agriculture, 2022. Yahaya, Sani Muhammad, and Murtala Ibrahim. Postharvest Handling and Storage of Vegetables. New York: Academic Press, 2020. **Materials** · Fresh vegetables (eggplant, tomato, pechay, okra, squash) · Crates and baskets · Clean water and washing basin · Labels and marker · Meta cards · Manila paper/cartolina

	· Packaging materials · Mobile phone/tablet for video viewing · Rubrics · Record sheet/logbook · LCD projector	
III. CONTENT	Post-harvest handling operations	
IV. OBJECTIVES	At the end of the lesson, the learners should be able to ✓ Explain the importance of proper washing, packaging, labeling, and recording of harvested vegetables. ✓ Perform proper post-harvest handling operations using appropriate materials and procedures. ✓ Demonstrate responsibility, cleanliness, cooperation, and appreciation in handling harvested vegetables to reduce waste and maintain quality.	
V. PROCEDURES		**ANNOTATIONS**
A. Activating Prior Knowledge	**1. Activating Prior Knowledge** **Activity 1: " Trim, Sort or Sort"** 1. Divide the class into small group. 2. Each group will recall the meaning of trimming, sorting, and sizing 3. Classify the given post-harvest handling practices into the correct category: Trimming · trimming roots of vegetables · removing bruised or wilted parts · cutting unnecessary plant materials · removing insect-damaged parts · cleaning muddy outer leaves **Sorting Practices** ● separating fresh and damaged vegetables ● grouping vegetables according to color ● separating mature and immature vegetables ● grouping vegetables according to quality ● separating marketable and non-marketable produce **Sizing Practices** ● grouping vegetables according to small, medium, and large sizes ● arranging tomatoes according to diameter	**Activating Prior Knowledge** **Activity 1:** *The teacher facilitates a collaborative recall activity using real-life agricultural examples. This learner-centered strategy strengthens prior knowledge and develops critical thinking, communication, and organizational skills. The activity promotes experiential and meaningful learning by connecting previous lessons on post-harvest handling operations to practical situations commonly observed in farms and local markets.*

	• classifying squash according to weight • grouping eggplants according to length • arranging okra according to uniform size 4. Work with the group to classify the given practices. 5. Paste to the manila paper provided. 6. Each group will present their output. **2. Establishing the Purpose of the Lesson** **Activity 1: "Why does it Matter?"** 1. Using the same groupings, observe the given two sets of vegetables: ✓ Properly washed and packed vegetables ✓ Improperly handled vegetables 2. Compare the appearance, freshness, and cleanliness of the vegetables. 3. Discuss the following questions with the group: • Which vegetables would consumers most likely to buy? • What handling practices helped maintain quality? • What problems may happen if vegetables are not properly handled? 4. Write one reason why proper washing, packaging, labeling, and recording are important.	*The teacher will provide a printed copy of the different post-harvest handling practices.* **Establishing the Purpose of the Lesson** *The teacher contextualizes the lesson through real-life comparison of vegetables commonly seen in markets and households. This activity develops learners' critical thinking, observation skills, and appreciation of proper post-harvest handling practices while establishing the relevance of the lesson to food quality, waste reduction, and consumer safety.*
B. Instituting New Knowledge	**PRESENTING EXAMPLES** **Activity 1: " Proper or Improper"** **1.** Observe the pictures showing proper and improper post-harvest handling practices. **2.** Identify which practices are proper or improper post-harvest handling practices. **3.** Classify the practices using the two-column chart.	*The teacher integrates visual learning to enhance engagement and comprehension. This activity develops analytical thinking, decision-making, and real-world understanding of post-harvest handling operations.*

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Proper practice	Improper practice

4. Explain why the practices affect vegetable quality.

DISCUSSING NEW CONCEPT

Importance of Proper Washing, Packaging, Labeling, and Recording of Harvested Vegetables

Proper post-harvest handling of vegetables is a critical step in ensuring that fresh produce remains safe, clean, and marketable from the farm to the consumer. It involves four key processes: washing, packaging, labeling, and recording. Each of these plays an important role in maintaining quality, reducing losses, and increasing the value of farm produce.

1. Washing

Washing is the first step after harvesting. It removes dirt, soil, dust, pesticide residues, and possible contaminants such as insects or microorganisms.

Proper washing is important because it:

- Improves the cleanliness and appearance of vegetables, making them more attractive to buyers.

	• Reduces the risk of foodborne illnesses caused by harmful bacteria. • Helps maintain freshness by removing materials that may speed up spoilage. However, washing must be done using clean, safe water and proper handling techniques to avoid damaging the vegetables. **2. Packaging** Packaging involves placing vegetables in appropriate containers such as baskets, crates, or boxes for transport and storage. Its importance includes: • Protecting vegetables from physical damage such as bruising or crushing. • Reducing moisture loss and slowing down spoilage. • Making transportation easier and more organized. • Improving market presentation and increasing product value. Good packaging also ensures that vegetables remain fresh until they reach consumers. **3. Labeling** Labeling means providing essential information on packaged vegetables, such as the type of vegetable, date of harvest, and source. Proper labeling is important because it: • Helps identify the product easily. • Ensures traceability in case of quality or safety issues. • Builds trust between farmers, suppliers, and consumers. • Supports proper inventory management in markets and stores. Labeling also reflects professionalism and good farming practices.	

4. Recording

Recording is the process of writing down important details about harvested produce — such as the quantity, type, date of harvest, and where it is delivered.

This process is important because it:

- Helps farmers monitor production and income.
- Provides data for planning future planting and harvesting schedules.
- Reduces losses by tracking produce movement.
- Supports business decision-making and farm management.

Accurate records are essential for improving farm efficiency and productivity.

DEVELOPING MASTERY

Direction: Follow the steps below to complete the activity.

1. Using the same groupings, work as a group.
2. Wash vegetables properly using clean water.
3. Sort vegetables according to quality and size.
4. Package vegetables using appropriate containers.
5. Create labels for the packaged vegetables.
6. Record the quantity and quality of harvested products in the logbook.
7. Refer to the checklist in performing the activity.

Checklist:

Criteria	Yes (✓)	No (✗)	Remarks
A. Washing of Vegetables			
1. Used clean and safe water for washing			

The teacher facilitates performance-based learning that develops practical agricultural skills and responsibility. The activity strengthens

	2. Removed soil, dirt, and visible contaminants properly					*collaboration, creativity, and application of knowledge in authentic situations. The teacher provide vegetables to use in the activity or proceed to the school garden for the actual performance of the activity.*
	3. Handled vegetables carefully to avoid damage					
	B. Sorting of Vegetables					
	4. Sorted vegetables according to quality (fresh, damaged, overripe, etc.)					
	5. Grouped vegetables according to size or standard classification					
	C. Packaging of Vegetables					
	6. Used appropriate and clean packaging materials (basket, crate, box, etc.)					
	7. Packed vegetables securely to prevent bruising or spoilage					
	8. Ensured proper arrangement for ventilation and freshness					
	D. Labeling of Packaged Vegetables					
	9. Created clear and readable labels					

	10. Included correct information (vegetable name, date harvested, group name/source)					
	E. Recording and Documentation					
	11. Recorded accurate quantity of harvested vegetables					
	12. Described quality of harvested produce correctly in logbook					
	F. Collaboration and Work Attitude					
	13. Demonstrated teamwork and cooperation					
	14. Followed safety and cleanliness practices during the activity					

C. Demonstrating Knowledge and Skills	**FINDING PRACTICAL APPLICATION** **Directions:** Read the situation carefully and work with your group to analyze the causes of vegetable spoilage in the community market. Apply the post-harvest handling practices you have learned to propose practical solutions. Present your recommendations through a short role -play, and use the rubric provided to guide and evaluate your performance. **"Community Market Solution"** In Barangay Marag, many vegetable vendors at the local market have been complaining about fast spoilage of their harvested vegetables, especially tomatoes, pechay, and eggplant. Some vegetables start to wilt, turn soft, or develop dark spots just one or two days after being displayed for sale. Several vendors admit that after harvesting, the vegetables are sometimes: • Not washed properly or are washed using unsafe water • Mixed together without sorting according to quality • Packed in old sacks or poorly ventilated containers • Not labeled, making it difficult to track harvest dates and sources • Not properly recorded, so farmers and sellers cannot monitor how long the produce has been stored or transported Because of these issues, customers often complain about poor quality, and vendors experience financial loss due to unsold or rejected vegetables. 1. Read the given situation about vegetable spoiling quickly in a local market. 2. Discuss the possible causes of spoilage with your group. 3. Work with your group to propose practical solutions by applying proper post-harvest handling practices. 4. Present the recommendation through a short role play.	*The teacher contextualizes learning through problem-based tasks connected to community experiences. This activity promotes empathy, critical thinking, creativity, and practical application of agricultural concepts.*

5. Use the rubric for the evaluation of the performance.

Rubric:

Criteria	Excellent (4)	Good (3)	Fair (2)	Needs Improvement (1)	Score
Understanding of the Problem	Clearly and accurately explains all causes of vegetable spoilage in the situation.	Explains most causes correctly with minor gaps.	Explains some causes but lacks clarity or accuracy.	Does not clearly understand the problem.	____
Application of Post-Harvest Practices	Provides complete and correct solutions using washing, sorting, packaging, labeling, and recording.	Provides mostly correct solutions with slight omissions.	Provides limited or partially correct solutions.	Solutions are unclear or not related to post-harvest practices.	____
Creativity and Presentation (Role Play)	Highly creative, engaging, and well-organized role play; roles are	Creative and organized presentation with minor issues.	Some effort shown but lacks organization or engagement.	Poorly organized and lacks creativity.	____

	clearly portrayed.				
Teamwork and Participation	All members actively participate and show strong cooperation.	Most members participate actively.	Only a few members participate.	Little to no teamwork observed.	____
Communication and Clarity	Ideas are clearly expressed with confidence and proper language use.	Ideas are mostly clear with minor issues in delivery.	Ideas are somewhat unclear or difficult to understand.	Communication is unclear and hard to follow.	____
Relevance to Community Situation	Strongly connected to real community market issues and solutions.	Mostly connected to the situation.	Some connection to the situation.	No clear connection to the situation.	____

Scoring Guide:
22–24 points: Excellent
18–21 points: Good
14–17 points: Fair
10–13 points: Needs Improvement

MAKING GENERALIZATION

Ask the learners to complete the following statements:

· Proper washing is important because _____.

· Proper packaging helps _____.

· Proper storage prevents _____.

The teacher facilitates reflective learning to help learners synthesize ideas and connect concepts. The activity develops comprehension, communication, and deeper appreciation of post-harvest handling practices.

EVALUATING LEARNING

Activity 1: **" Perform Me!"**

1. Individually perform proper washing, sorting, packaging, and labeling of vegetables.
2. Record harvested products accurately in the logbook.
3. Follow cleanliness and safety procedures throughout the activity.
4. Use the rubric for the evaluation of performance.

Rubric:

Criteria	Excellent (4)	Good (3)	Fair (2)	Needs Improvement (1)	Score
Washing of Vegetables	Washes vegetables thoroughly using clean water; removes all dirt and handles produce carefully with no damage.	Washes properly with minor dirt remaining or slight handling issues.	Incomplete washing; some dirt remains or vegetables slightly damaged.	Did not properly wash vegetables or caused damage.	____

The teacher conducts authentic assessment through performance-based evaluation. The activity measures learners' mastery of practical skills, responsibility, and adherence to proper post-harvest handling procedures.

Sorting of Vegetables	Accurately sorts vegetables based on quality and size with no errors.	Mostly correct sorting with minor mistakes.	Limited sorting accuracy; some mixing of categories.	No proper sorting done or very inaccurate.	____	
Packaging of Vegetables	Uses appropriate packaging materials; vegetables are well-arranged, protected, and properly ventilated.	Packaging is appropriate but with minor issues in arrangement or protection.	Packaging is somewhat appropriate but lacks care or structure.	Inappropriate packaging or poor handling causing damage.	____	
Labeling of Products	Labels are complete, clear, and accurate (name, date, source/group).	Labels are mostly complete with minor missing information.	Labels are unclear or missing some important details.	No labeling or incorrect information provided.	____	
Recording in Logbook	Records are complete, accurate, and clearly organized.	Records are mostly accurate with minor errors or omissions.	Records are incomplete or somewhat inaccurate.	No recording or very poor documentation.	____	

Cleanliness and Safety Practices	Strictly follows all safety and cleanliness procedures throughout the activity.	Follows most safety and cleanliness procedures with minor lapses.	Occasionally follows safety procedures but inconsistent.	Does not follow safety and cleanliness procedures.	____
Work Attitude and Responsibility	Highly responsible, focused, and demonstrates excellent work ethic throughout.	Shows good responsibility with minor lapses in focus or effort.	Shows limited responsibility or requires reminders.	Shows poor attitude and lack of responsibility.	____

Scoring Guide:

- **25–28 points:** Excellent
- **20–24 points:** Good
- **15–19 points:** Fair
- **10–14 points:** Needs Improvement

ADDITIONAL ACTIVITIES

Activity 1: "Poster of Preservation"
· Work individually or in pairs.
· Create a poster that promotes **proper harvesting, packaging, and storage of vegetables**.
· Your poster must include:
  - A clear and catchy **slogan** related to post-harvest handling
  - Simple **drawings or illustrations** showing proper practices

- Practical reminders (e.g., “Wash vegetables using clean water,” “Store in cool place”)

· Use clean, organized, and creative layout.
· Present and explain your poster in front of the class.
· Be ready to answer questions about your design and message.
· Your work will be assessed based on creativity, accuracy, and relevance to the topic.

Rubric:

Criteria	Excellent (4)	Good (3)	Fair (2)	Needs Improvement (1)	Score
Content Accuracy	All information about harvesting, packaging, and storage is correct and highly relevant.	Mostly correct information with minor errors.	Some correct ideas but with noticeable errors.	Information is incorrect or unrelated to the topic.	____
Creativity and Design	Highly creative, visually appealing, and well-organized layout.	Creative and organized with minor design issues.	Some effort shown but lacks visual appeal or organization.	Poor design and lacks creativity.	____
Slogan Effectiveness	Slogan is catchy, clear, and strongly	Slogan is clear and related but	Slogan is somewhat related but	No slogan or not related to the topic.	____

	related to post-harvest practices.	less impactful.	unclear or weak.		
Visual Representation (Drawings/ Illustrations)	Drawings clearly show proper practices and enhance understanding.	Drawings are relevant but lack detail or clarity.	Limited or unclear drawings with weak connection to topic.	No drawings or irrelevant illustrations.	____
Communication/Presentation	Confident and clear explanation of poster with strong understanding.	Clear explanation with minor issues in delivery.	Somewhat unclear explanation or limited understanding shown.	Unable to explain the poster clearly.	____

Scoring Guide:

- **18–20 points:** Excellent
- **14–17 points:** Good
- **10–13 points:** Fair
- **5–9 points:** Needs Improvement

VI. ASSESSMENT	**ASSESSMENT:** **Directions: Read each situation carefully. Analyze the problem or practice related to post-harvest handling of vegetables. Choose the letter of the best answer and write it on your answer sheet.** 1. After harvesting pechay, Ana washed the vegetables using clean water before packaging them for selling in the market. Why is proper washing important? A. It causes a delay in harvesting time. B. It changes the vegetable color. C. It increases vegetable weight. D. **It helps remove dirt and contaminants.** 2. A farmer packed tomatoes in plastic crates instead of sacks before transporting them to town. Why was this practice appropriate? A. The crates increased the tomato size. B. The crates reduced the harvest quantity. C. The crates made the tomatoes ripen faster. D. **The crates protected the tomatoes from bruising.** 3. Vegetable packages in a cooperative store included labels showing the product name and harvest date. What is the main purpose of labeling? A. To increase vegetable size B. To improve harvesting speed C. **To provide product information** D. To prevent vegetables from ripening 4. Mario recorded the number of eggplants harvested every week in a logbook. How does recording help the farmer? A. It removes damaged vegetables. B. It changes the quality of vegetables.

	C. It helps monitor production and sales. D. It increases the freshness of vegetables. 5. A learner washed harvested vegetables in dirty water collected from a canal. What is the possible effect of this practice? A. The vegetables become larger. B. The vegetables become sweeter. **C.** The vegetables ripen immediately. **D. The vegetables may become contaminated.** 6. Before packaging vegetables, a farmer separated damaged vegetables from fresh ones. Why is sorting important? A. It increases harvesting time. B. t reduces vegetable freshness. C. It changes vegetable appearance. **D. It helps maintain product quality.** 7. Harvested vegetables were stored in a cool and clean area after packaging. What is the benefit of proper storage? A. It increases vegetable size. B. It changes vegetable color. C. **It helps maintain freshness.** D. It delays packaging operations. 8. Liza carefully handled tomatoes while washing and packaging them to avoid bruising. Which value did Liza demonstrate? A. Carelessness B. Dependence

	C. Laziness **D. Responsibility** 9. Learners cleaned the tables, containers, and tools before handling harvested vegetables. Why should cleanliness be observed during post-harvest operations? A. To speed up harvesting B. To change vegetable taste C. **To prevent contamination** 10. During a school activity, learners worked together in washing, labeling, and packaging vegetables. What value was shown in the activity? A. **Cooperation** B. Competition C. Dependence D. Negligence 11. Vegetables packed in damaged baskets were crushed during transportation. What should be done to avoid this problem? A. Harvest vegetables earlier. B. Store vegetables outdoors. C. Mix vegetables of different sizes. D. **Use proper packaging containers.** 12. A farmer removed spoiled vegetables before storing the harvested products. Why was this action necessary? A. To change vegetable color B. To increase vegetable weight C. To improve harvesting speed

	13. A learner forgot to record the quantity of vegetables sold in the market. What problem may happen? A. Packaging becomes easier. B. Vegetables become cleaner. C. Vegetable freshness increases. D. **Farm monitoring becomes difficult.** 14. Consumers preferred buying vegetables that were clean, properly packaged, and labeled. Why do consumers choose these products? A. They spoil more quickly. B. They are harvested more slowly. C. **They appear safe and high quality.** 15. A farmer practiced proper washing, sorting, packaging, labeling, and recording after harvest. What is the best result of these practices? A. Faster spoilage B. Increased contamination C. Lower vegetable quality D. **Reduced post-harvest losses**
VII. REFLECTION	Ask the learners about the following questions: 1. What activities helped learners understand post-harvest handling operations? 2. What difficulties did learners encounter during the activities? 3. What strategies were effective in developing learners' practical skills and values? 4. What improvements can be made in the next lesson?
VIII. USE OF GENERATIVE AI	In preparing this Learning Exemplar (LE), the author(s) used ChatGPT in order to make more assistive in adding more references. The author(s) reviewed and finalized the writing of the content. The author(s) take(s) full responsibility for the content of this LE.