Marabella North Secondary School

LESSON PLAN

Teacher's Name: Riad Rampat		**Subject:** Agriculture Science (Single Award)
Date: 19th May 2025	**Class:** 404	**Number of Students**: 6
Time: 12:30 p.m. to 2:15 p.m.		**Length of Session:** 105 minutes
Unit Title: *Plant Reproduction (Unit 1.4)* **Lesson Title:** Asexual Propagation by Air Layering		

Resources	
Teacher's Resources	**Students' Resources**
PowerPoint, Photos, Worksheet, Labels, PPE, Video, Plant Specimens, pro-mix, clear plastic, twine, knife, secateurs.	Textbook, notebook, stationery, PPE.

Previous Knowledge - Topics

- Ability to identify the parts of a plant and plant processes.
- Care for crops.
- Care and usage of simple farm tools.
- Nursery management and practices.

General Objectives:

Students will:

1. Identify different methods of asexual propagation in plants.
2. Describe the process involved in asexual propagation techniques.
3. Recognize the advantages and disadvantages of asexual propagation
4. Appreciate the role of asexual propagation in agribusiness.
5. Explore air-layering techniques through teacher demonstration and hands-on trials.

Specific Objectives

COGNITIVE At the end of the lesson students will:	**PSYCHOMOTOR** At the end of the lesson students will:	**AFFECTIVE** At the end of the lesson students will:
1. Define four methods of artificial asexual plant propagation, including cuttings, grafting, tissue culture, and air layering. 2. Compare the advantages and disadvantages of air layering with other asexual propagation methods. 3. Identify tools and materials for performing the air layering method.	1. Indicate suitable characteristics on plants for air layering. 2. Practice using a knife to remove the cambium layer of plants. 3. Demonstrate the procedure for performing air layering during the hands-on activity using an instructional sheet.	1. Show interest and active participation in the air layering demonstration and practice. 2. Value the importance of asexual propagation methods in sustainable agriculture and agribusiness. 3. Adhere to safe practices when practicing air layering of plants using tools.

Assessment Strategies

COGNITIVE/PSYCHOMOTOR	ASSESSMENT STRATEGY	AFFECTIVE	ASSESSMENT STRATEGY
1. Define four methods of artificial asexual plant propagation, including cuttings, grafting, tissue culture, and air layering. 2. Compare the advantages and disadvantages of air layering with other asexual propagation methods. 3. Identify tools and materials for performing the air layering method. 4. Indicate suitable characteristics on plants for air layering. 5. Practice using a knife to remove the cambium layer of plants. 6. Demonstrate the procedure for performing air layering during the hands-on activity using an instructional sheet.	• Oral questioning • Assessment sheet • Online quiz • Oral questioning • Group work (practical)	1. Show interest and active participation in the air layering demonstration and practice. 2. Value the importance of asexual propagation methods in sustainable agriculture and agribusiness. 3. Adhere to safe practices when practicing air layering of plants using tools.	• Observation • Oral questioning • Observation

Set Induction

Animated video played at the beginning of the lesson.
Students are asked to note their observations on two croton plants – one is already planted in the soil and the other one is still attached to a branch. Students are asked, which of the plants are grown from a seed?

Description of Teaching/Learning Methods

Teacher's Activities	Students' Expected Activities	Est. time to complete
<u>Introduction/Set Induction</u> • Animated video played to welcome students to the class and introduce the lesson. • Students are asked to recall previous class topic (asexual reproduction - naturally). • Sharing of lesson objectives.	• Responds to video and set induction questions. • Take out books and writing tool. • Students give their responses orally on the review previous class topic using flow chart shown on presentation. • Students listen to the feedback from their teacher.	5 minutes
<u>Presentation 1</u> Method: Questioning and Discussion • Definition of terms: artificial asexual plant propagation, cuttings, grafting, tissue culture, and air layering. (Cog No.1) • Compare the advantages and disadvantages of air layering with other asexual propagation methods. (Cog No.2) • Identify tools and materials for performing the air layering method. (Cog No.3)	• Listen to the content being taught and take notes. • Volunteer to read when asked. • Answer questions during the presentation orally.	5 minutes 5 minutes
<u>Summary 1 Formative Check)</u>		

• The presentation is summarized. • Two scenarios are given, A and B are presented as photos and students are asked which scenario demonstrates air layering. • Students are asked to indicate agriculture crop examples used for air layering. • Students are asked to identify two materials used for air layering.	• Respond to questions asked by teacher. • Respond orally to questions displayed on the presentation. • Students give their answer on their printed notes.	5 minutes 5 minutes
<u>Presentation 2</u> Method: Inquiry • Selecting an appropriate branch on croton trees suitable for air layering. (Psy. No.1)	• Volunteer when called upon to answer and read.	5 minutes
Method: Demonstration • Practice using a knife to remove the cambium layer of plants. (Psy. No. 2)	• Responds to questions on activity sheet and presentation.	5 minutes
<u>Summary 2 (Formative Check)</u> • The presentation is summarized. • Why are some plants unsuitable for propagation using layering? • How does the rooting hormone help with root development? • Why is pro-mix used for air layering?	• Students arrange the order of steps for the procedure of air layering. • Students participate in oral questioning.	5 minutes 5 minutes
<u>Presentation 3</u>		

Method: Guided Instruction • Demonstrate the procedure for performing air layering during the hands-on activity using an instructional sheet. (Psy. No. 3) Method: Discovery-based learning • Adhering to safe practices when air layering plants. (Aff. No. 1) <u>Summary 3 (Formative Check)</u> • The presentation is summarized. • Why is a sharp knife used for performing air layering? • Why are sterile conditions necessary for air layering? <u>Evaluation</u> • Define the term asexual reproduction in plants. • Differentiate between natural methods and artificial methods of asexual reproduction in plants. • Define the term air layering. • Suggest one reason why some air-layered plants fail to produce fruits. <u>Conclusion</u> • Layering as having methods (simple layering and air-layering) • Air layering is cloning. • Air layering as having benefits: earlier bearing, easier harvesting, preserving fruit variety).	• Students listen and look at video for procedure of air layering. • Responds to questions on activity sheet. • Responds to questions orally. • Respond to questions. • Ask questions to clarify any misconceptions and provide takeaway from the lesson.	35 minutes 5 minutes 5 minutes 5 minutes 5 minutes 5 minutes
Contingency Plan		

Teacher's Activities	Students' Expected Activities	Est. time to complete
• In the event technology failure, posters and labels will be used to foster student participation.	• Students participate fully and utilize resources provided by teacher.	105 minutes

End of Lesson Activities

- Students would be given homework to practice air layering at home using QR code to follow step-by-step guide.
- Students would clean up their workspace and dispose of PPE.

Closure to lesson

T.S. (Transition Statement)
Now that you've uncovered the secret behind growing a plant without seeds, let's dive deeper into how this fascinating method, called air layering and why it's such a valuable tool in agriculture today.

B.S. (Bridging Statement)
You've just learned the steps involved in air layering, and now it's time to apply that knowledge in the field. Like real plant scientists, you'll perform the process yourselves—observing, experimenting, and discovering the magic of asexual propagation in action.

Critical Employability Skills

- Communicate ideas and information

- Think critically
- Problem solving
- Numeracy skills
- Work in groups or pairs (collaboration and cooperation)
- Environmental awareness

REFLECTIONS

My final teaching practice focused on the topic *Plant Propagation by Air Layering*, and it was an incredibly fulfilling experience that showcased my growth and development as an agriculture teacher. From the very beginning, I felt a noticeable difference in my confidence and delivery compared to my earlier lessons. Over the course of my practicum, I've grown more comfortable with lesson planning, classroom management, and engaging students through various teaching strategies, and this final lesson reflected that progress.

One of the strongest aspects of this lesson was my set induction. I designed it to spark curiosity and immediately capture the students' attention, and it worked exactly as intended. The students were drawn in from the start and remained enthusiastic and engaged throughout the session. They responded well to my questions, participated actively in discussions, and showed genuine interest in the topic. This level of oral participation was encouraging and affirmed that the strategies I used were effective.

The practical component of the lesson was another highlight. Although the rain posed a bit of a challenge, I had anticipated the possibility of bad weather and prepared an alternative indoor plan. This ensured that the students still had a meaningful hands-on experience with the air layering technique, even if slightly modified. Their performance during the practical showed their understanding of the content, and I was proud of how well they applied the concepts taught in the theory portion of the lesson.

In terms of teaching strategies, I made intentional use of technology, interactive games, and worksheets to keep the lesson dynamic and engaging. These tools not only maintained student interest but also catered to different learning styles within the classroom. I noticed that students were more responsive and enthusiastic when the lesson included visual and interactive elements, which reinforced the importance of using diverse resources in lesson delivery.

Reflecting on my journey from the first teaching practice to this final one, I can confidently say that I have made significant improvements. I now approach my lessons with greater preparation, flexibility, and assurance. My ability to manage the class, adapt to unforeseen challenges like the rain, and maintain student engagement has all improved with experience. This final lesson was not only a successful culmination of my practicum but also a reaffirmation of my passion for teaching agriculture. It has motivated me to continue refining my skills and to always strive to deliver meaningful, student-centered lessons in the future.