

# DESIGNING OUR FUTURE FARM

ACTIVITY:  
**DESIGNING OUR FUTURE FARM**  
FROM TRADITIONAL TO SMART AGRICULTURE  
GRADE 8 • ELECTIVE AGRICULTURE: SMART AGRICULTURE



## LESSON 4

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# Topic: From Traditional to Smart Agriculture

## Lesson 4: “Designing Our Future Farm”

Duration: 35-minutes

Grade 8

Lesson 4: Designing Our Future Farm [Application through Collaborative Design Activity]

### Lesson Overview

In this lesson, students will synthesize knowledge from the previous three lessons on traditional and smart agriculture to collaboratively design a model of a “Future Farm.” Through guided group work, they will conceptualize how technology, sustainability, and innovation can transform a traditional farm into a smart one. The purpose of this activity is to reinforce critical thinking, creativity, collaboration, and application of learned concepts.

### Lesson Aims

The aim of this lesson is to help students deepen their understanding of traditional and smart agriculture while encouraging creativity, collaboration, and problem-solving through a real-world farm design scenario-based activity.

### Learning Objectives

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

1. Apply their prior knowledge on the evolution of traditional to smart agricultural practices in designing a conceptual farm model.
2. Work collaboratively to design, explain, and visually represent a future farm.
3. Present and justify the features of their designed farm to their peers.

### Materials Required

- Whiteboard
- Chart paper / A3 paper
- Markers / Color pencils
- Ruler, glue, scissors (optional)
- Printed resource sheets (icons/elements like solar panels, sensors, irrigation systems, etc.)
- Sticky notes

## Lesson Procedure

Time	Stage	Activities	Teacher's Role	Student's Role
0–3 mins	Introduction	Recap key points from the last three lessons: definitions, comparisons, and examples of traditional vs smart agriculture.	Facilitate a rapid recap using visuals and prompting questions.	Respond to questions and recall past lessons.
3–6 mins	Set the Task	Introduce the activity: “Design Your Future Farm” in groups of 4–5. Explain expectations and criteria (e.g., sustainable practices, technology use, layout, innovation).	Explain clearly using examples or a quick sketch on the board. Assign groups.	Listen attentively, ask clarifying questions, and form groups.
6–25 mins	Main Activity	Group Work: Students brainstorm, sketch, and design their future farm using materials provided. Include elements such as automated irrigation, renewable energy, smart monitoring, vertical farming, etc.	Move around the class offering support, prompting critical thinking, ensuring all are engaged.	Collaborate, plan, design, and create a visual representation of the smart farm.
25–33 mins	Sharing & Presentation	Each group presents their farm (1 min per group). Focus on main features and innovations.	Facilitate and time each group. Offer positive feedback.	Present their model. Listen to peers and take note of other ideas.
33–35 mins	Conclusion & Reflection	Conduct a 2-minute whole-class reflection: “What did you learn from designing your future farm?”	Ask reflective questions like “What was your favorite part of the activity?” “What challenges did you face?”	Share key takeaways, reflections, or ask a question.

## Teacher & Student Responsibilities

Teacher's Responsibilities	Student's Responsibilities
Provide clear instructions for the group activity	Engage actively in group discussion and design
Guide and scaffold where necessary with open-ended questions	Apply prior knowledge to make meaningful design decisions
Monitor participation and collaboration	Respect roles, listen to group members, contribute ideas
Manage time and transitions effectively	Use materials responsibly and stay on task
Encourage reflection and peer learning	Present clearly and reflect on own learning and peer presentations

## Teacher Observation Sheet: Designing Our Future Farm

Class: Grade 8

Date: \_\_\_\_\_

Teacher's Name: \_\_\_\_\_

Group No.	Student Names	Participation (✓/X)	Shows Understanding of Smart Agriculture (1-5)	Creativity in Design (1-5)	Teamwork & Collaboration (1-5)	Comments
1						
2						
3						
4						
5						

### Scoring Guide:

- **Participation:** ✓ = Actively involved | X = Limited involvement
- **Understanding, Creativity, Teamwork:** 1 (Low) to 5 (Excellent)