

SMART AGRICULTURE



MAURITIUS INSTITUTE OF EDUCATION under the aegis of



MINISTRY OF EDUCATION AND HUMAN RESOURCE



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RENEWABLE ENERGY IN FARMS

Lessons 17
Renewable Energy in Farms



Duration:
35 minutes



Grade:
7





Renewable Energy in Farms

Lesson Aim

In this lesson, students will be introduced to how farms use renewable energy sources such as sun, wind, and water to help the environment and grow in a better way.

Lesson Overview

In this lesson, students will learn about renewable energy. This is clean energy that comes from nature- such as the sun, wind and water. These natural sources give us energy that we can use repeatedly. The reason this energy is called renewable is because it never runs out

For example:

The sun shines every day. We can use it to make solar energy

The wind blows in the air. We can use it to make wind energy.

Flowing water in rivers can make water energy and it is also called hydropower.

Learning Objectives

At the end of this lesson, learners will be able to:

1. Identify different types of renewable energy (solar, wind, and water).
2. Describe the source of each type of renewable energy.

Materials Required

- Pictures or short videos showing green farms.
- Pictures of solar panels: hydroponic structures, wind turbines to pump water, animal waste generating biogas.
- Scissors
- Glue



Renewable Energy in Farms

Lesson Procedure

Part of Lesson	Time	What's Happening
Pre-Class Preparation and Brainstorming	3 minutes	Group discussion on what vegetables farmers need to grow on a farm.
Introduction and collaborative thinking	5 minutes	Introduce the learners to the energy helpers.
Roundtable Discussion	12 minutes	Explain how sun, wind, and water provide energy.
Cut and Paste Activity	10 minutes	Learners carry out cut and paste activities using pictures of energy helpers to match with different activities in the table provided.
Assessment, Evaluation and Reflection Time	5 minutes	Learners write in their journals while the teacher records observations on their level of participation.



Renewable Energy in Farms

Step-by-step guide

Step-by-Step Guide

1. Warm-Up and Brainstorming

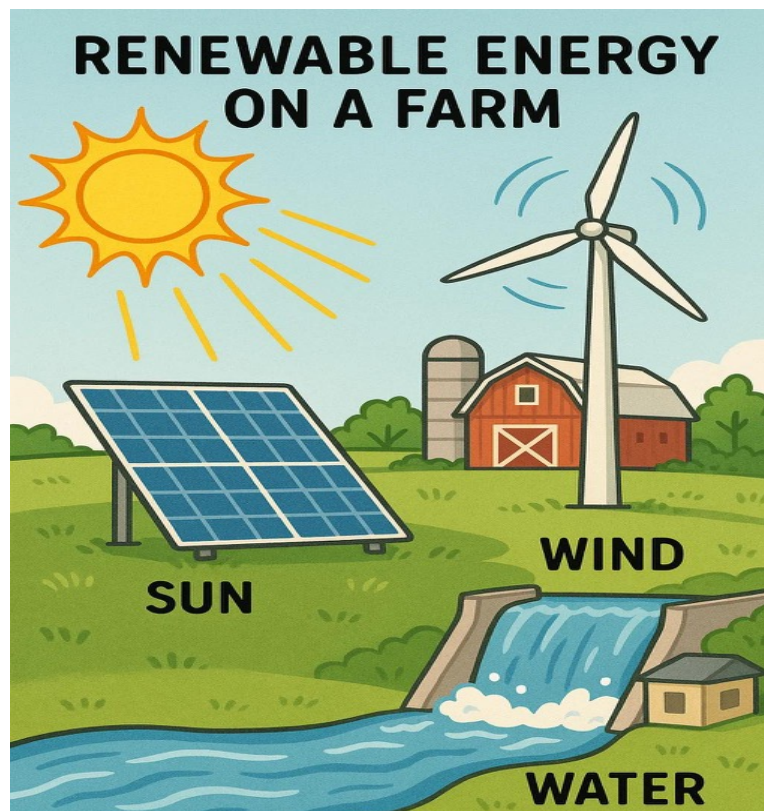


Figure 1: Renewal energy on a farm

Disclaimer: This image is created by Sora, Generative AI.

- Start with questions like:
Prompting Questions: “What do farmers need to grow food on a farm?”
- Guide learners to mention (Electricity, water, machines, animals)
Lead to the following: “Where does the energy on the farm come from?”
- Start with a class discussion on the use of energy in modern techniques of agricultural practices (hydroponics greenhouse, irrigation systems).
- Discuss how farmers need energy to operate tractors, water pumps, lights, etc.
- Introduce the idea of renewable energy-energy from nature that is economical, never runs out and does not harm our planet.



Renewable Energy in Farms

Learning Activity

2. Introduction and collaborative thinking

Show a short video about different types of activities on a modern farm.

Link for YouTube video (Duration: 3.21 minutes):

https://youtu.be/Giek094C_l4?feature=shared



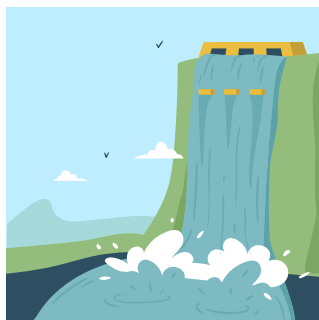
3. Discussion

- Reflective Questions after viewing the video:
“What do you see?”
- Guided discussion on different energy helpers.
Explain each energy source:
 - Sun: Solar energy
 - Wind: Wind energy
 - Water: Water energy.

4. Cut and Paste Activity

Instructions to students

- Learners cut pictures of energy sources.
- The students paste pictures of the sun, wind, and water to match the correct energy source in the table provided, with the assistance of their teacher.



Learning Activity

ENERGY SOURCE	PICTURE
Solar Energy	
Wind Energy	
Water Energy	



Learning Activity

5. Assessment and Reflection

My Personal Learning Journal: Renewable Energy on Green Farms

(a) Write 2 things you learned about renewable energy and green farms.

Example:

1. Solar panels can be used to power water pumps on farms.

2.
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3.
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Learning Activity

(b) Why is it important?
Why do you think using renewable energy on farms is a good idea?

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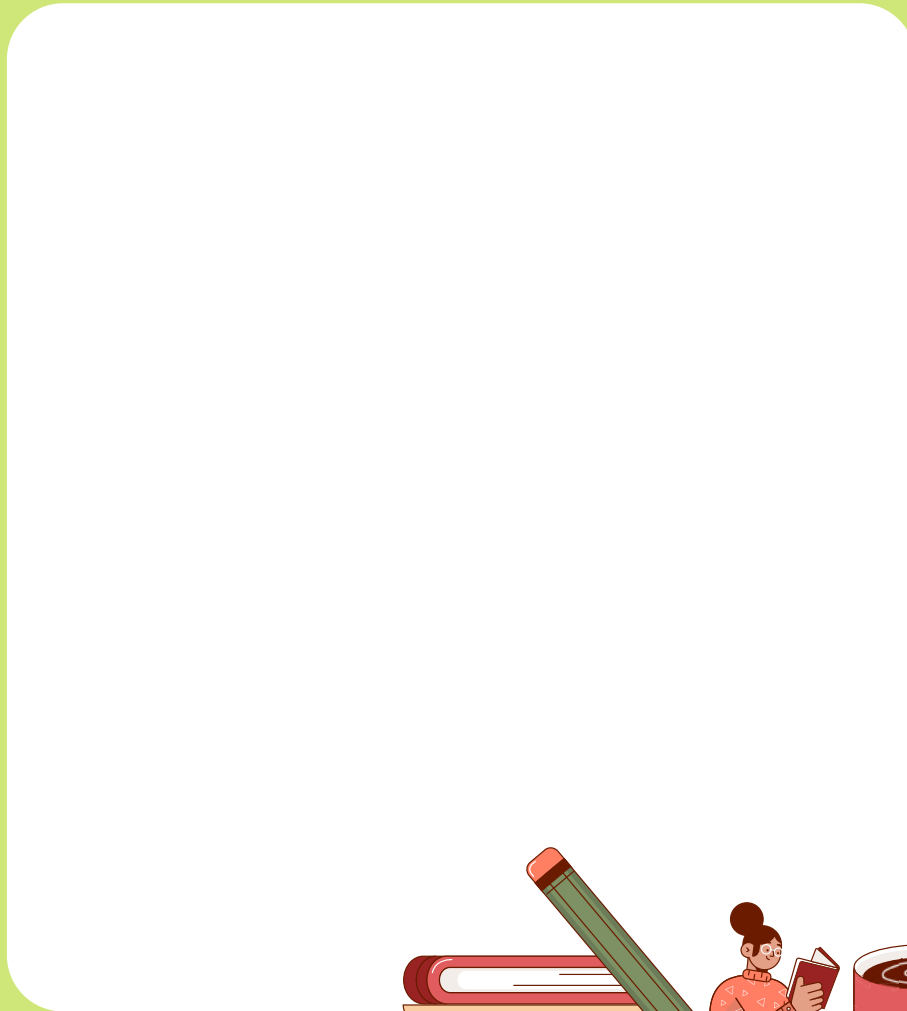
Renewable Energy in Farms

Learning Activity

(c) Draw and Label

Draw a picture of a green farm using renewable energy (solar panels, wind turbines, etc.).

Make sure to label your drawing!
Here's a picture of my farm:



Renewable Energy in Farms

Teacher Observation sheet



What we are looking for?	Very Good	Good	Try Again
Understand green energy.			
Knows how it helps to farm.			
Uses own words.			

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ELECTIVE



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