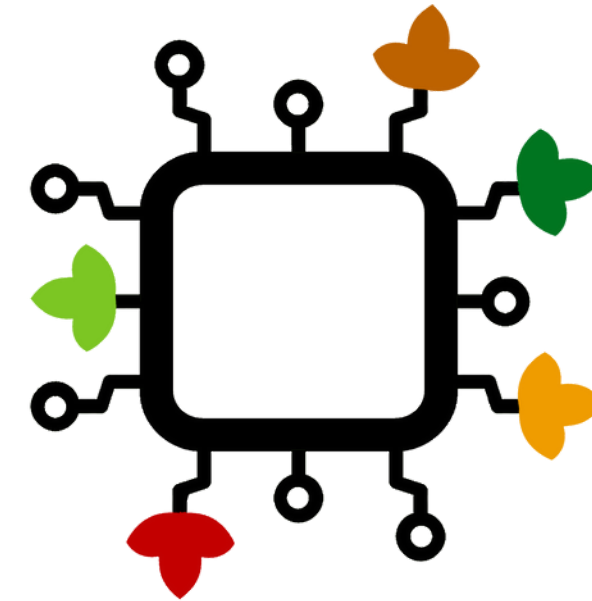


# The Green STEAM Incubator Project

Exhibition Of Activities



*Green*  
**STEAM**  
*Incubator*



Co-funded by the  
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# Partners

## THE CONSORTIUM



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# Significance of the framework for developing collaborations.



- 01** Bring young people closer to farms and agro-entrepreneurship, as well as inspire them to develop an understanding about the way those operate in the local context.
- 02** Concepts of Environmental education, permaculture and latest technological innovations in the field of agriculture.
- 03** To be used as a starting Action Plan for development of collaborations between organizations and starting new agricultural businesses or upgrading current agro-enterprises with technological equipment.

# Methodology

## UNCOVERED KEY RESEARCH TRENDS

Presentations are communication tools that can be used as demonstrations, lectures, speeches, reports, and more.

# Significant discovery

## UNCOVERED KEY RESEARCH TRENDS

Presentations are communication tools that can be used as demonstrations, lectures, speeches, reports, and more.

# New understanding of the problem

## UNCOVERED KEY RESEARCH TRENDS

Presentations are communication tools that can be used as demonstrations, lectures, speeches, reports, and more.



NOVEMBER 2021

# Methodology of activities

12 ON - SITE ACTIVITIES  
INDICATING ALL THE PRACTICAL  
ARRANGEMENTS



# Agro-businesses in Cyprus

FARMS THAT HELPED US WITH THE IMPLEMENTATION OF THE ACTIVITIES



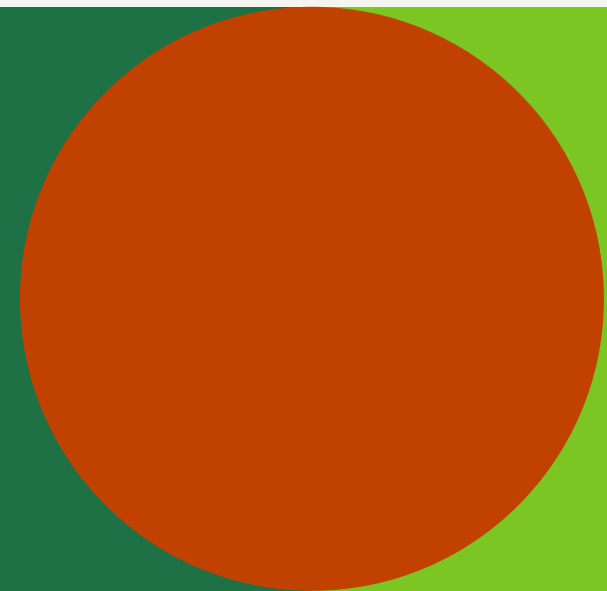
Riverland Farm, Kampia, Nicosia



Ygea, Mathiatis, Nicosia

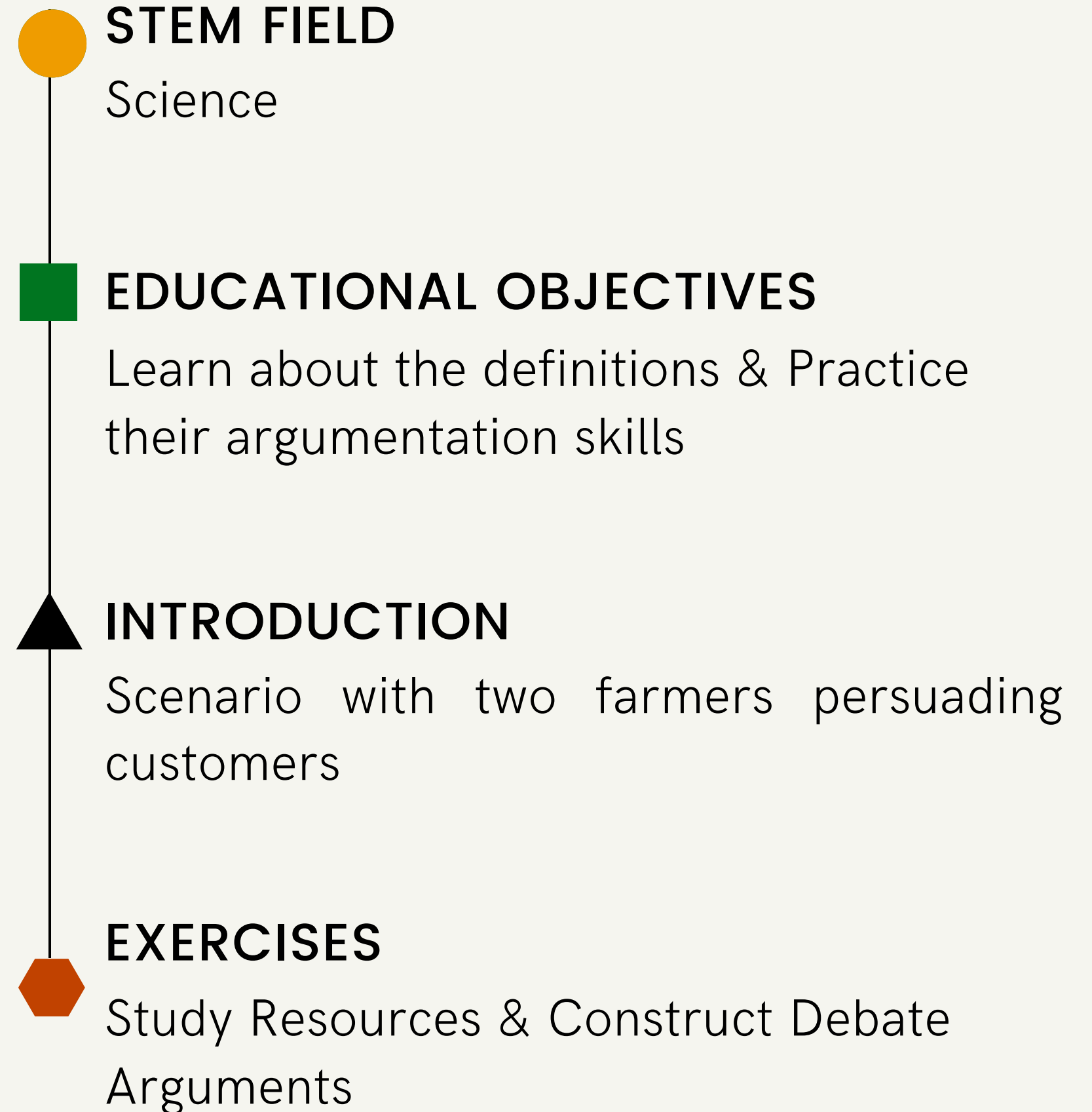
# Different Types of Activities

- Crop Cultivation: Gardening vegetables, Fruit Farming
- Livestock rearing: Dairy products, Bees
- Organic products production: Vegetables & Herbs, Olive Oil
- Activities for the public: Workshops, Cooking Classes, Seminars
- Other: Soil Analyses, Land preparation with tech



## ACTIVITY 1

# Learning about conventional and organic farming





# Adoption of STEM technologies



# Data Processing Fun



● **STEM FIELD**

Mathematics

■ **EDUCATIONAL OBJECTIVES**

Importance of Mathematics in Agriculture

▲ **SCENARIOS**

Measuring of Soil Fertility, Estimating Crop Yield, Calculating Costs and Profits, Conversion of Units, Grading & Describing Seed

◆ **MATH EXERCISES**

Arithmetic, Geometry (Volume, Square Meters)

## ACTIVITY 4

# Building a Farm



## STEM FIELD

Engineering

## EDUCATIONAL OBJECTIVES

Discuss certain aspects of the farm planning

## EXERCISES

Build a SMART FARM that uses one innovative technology

## TECHNOLOGICAL TOOLS

Microchips, Modern Hydro Station, Solar Power, Fertilization System, Wind Power Plant

# Perma - VENGER Hunt

 **STEM FIELD**  
Biology

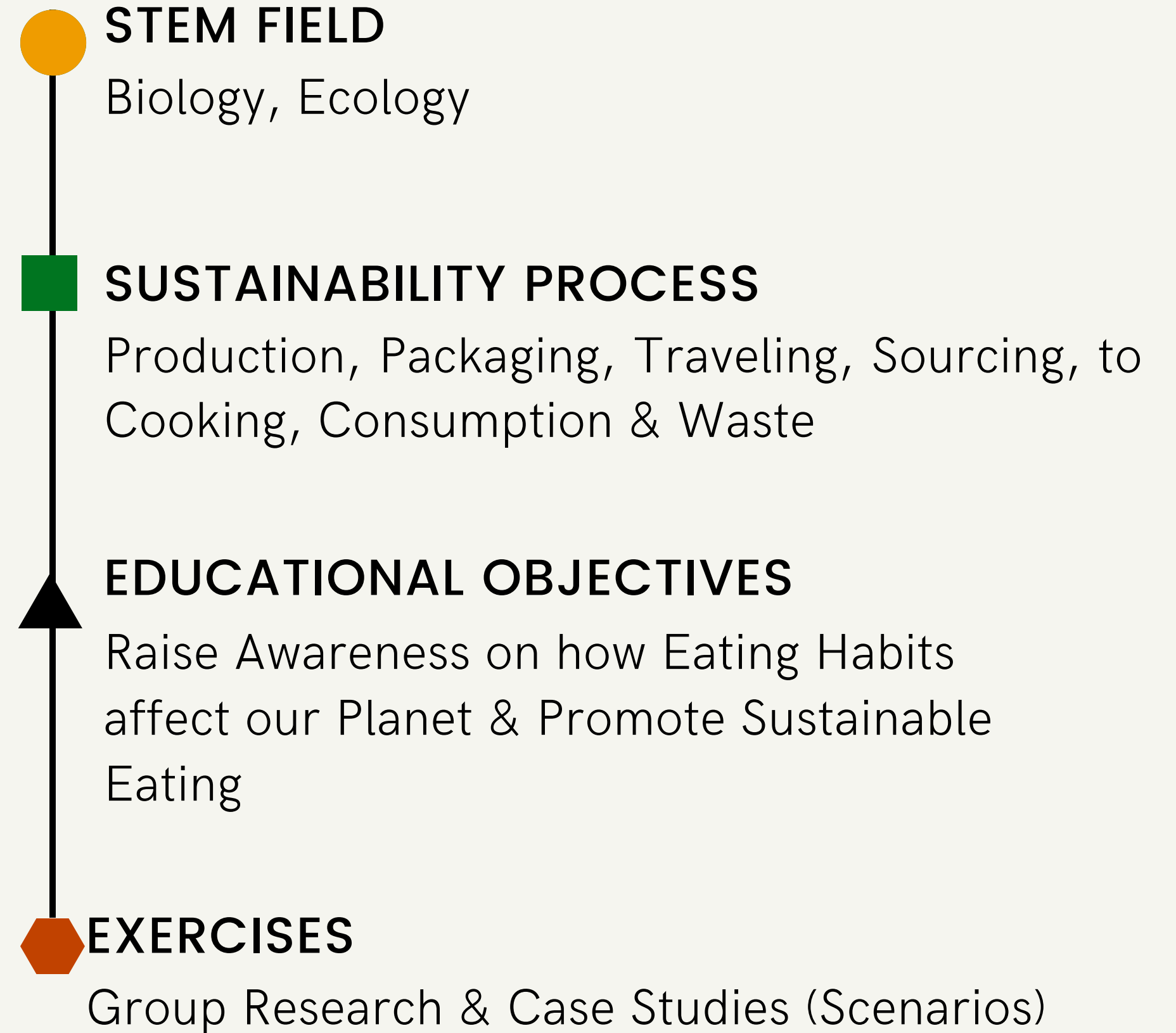
 **EDUCATIONAL OBJECTIVES**  
Describe how the life on a farm looks like & how it operates

 **EXERCISES**  
Plant Hunt with Educational Cards

 **LEARNING OUTCOMES**  
Exploring the farm environment at their own pace, Gain a Better Knowledge of what is produced

	<b>NAME OF THE PLANT</b> basic information about the plant
	information about the soil
	hydration needs
	fertilization needs
	information about harvesting
	information about nutrition

# Sustainable Cooking Class



# Creating Your Own Community Garden



## STEM FIELD

Science, Biology (Botany, Ecology, Permaculture)



## EDUCATIONAL OBJECTIVES

Teach the process of planting, growing and harvesting vegetables and herbs based on permaculture



## MAIN CONCEPTS

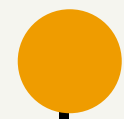
Community Garden, Permaculture, Polyculture



## EXERCISES

i.e. Creation of a community garden "contract", Plants' needs - analysis

# Self - Sustained Agricultural Infrastructure



## STEM FIELD

Science, Technology, Ecology



## EDUCATIONAL OBJECTIVES

Learn About Innovations in Agricultural Infrastructure (crop, water, waste, animals and energy resources) & How can reduce energy consumption



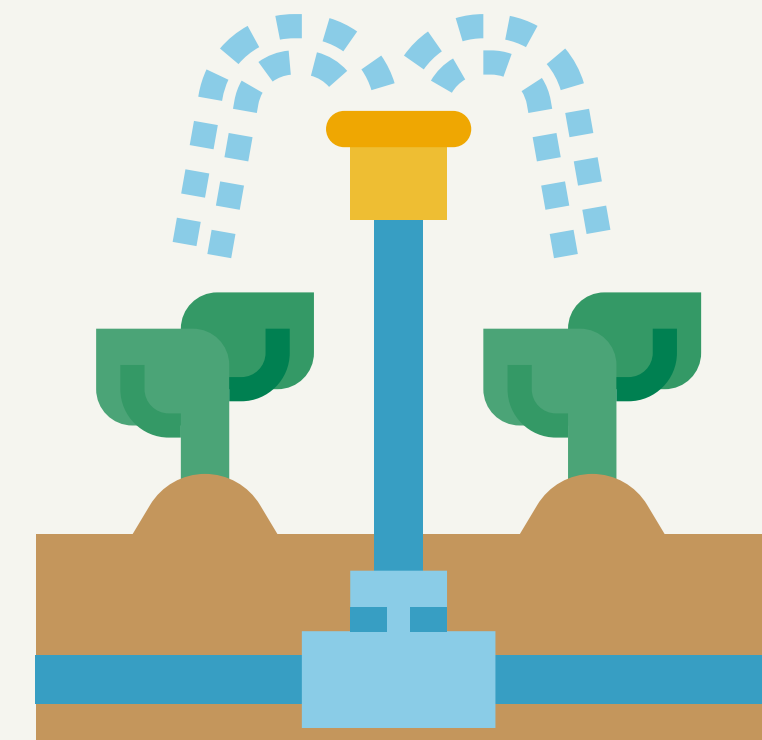
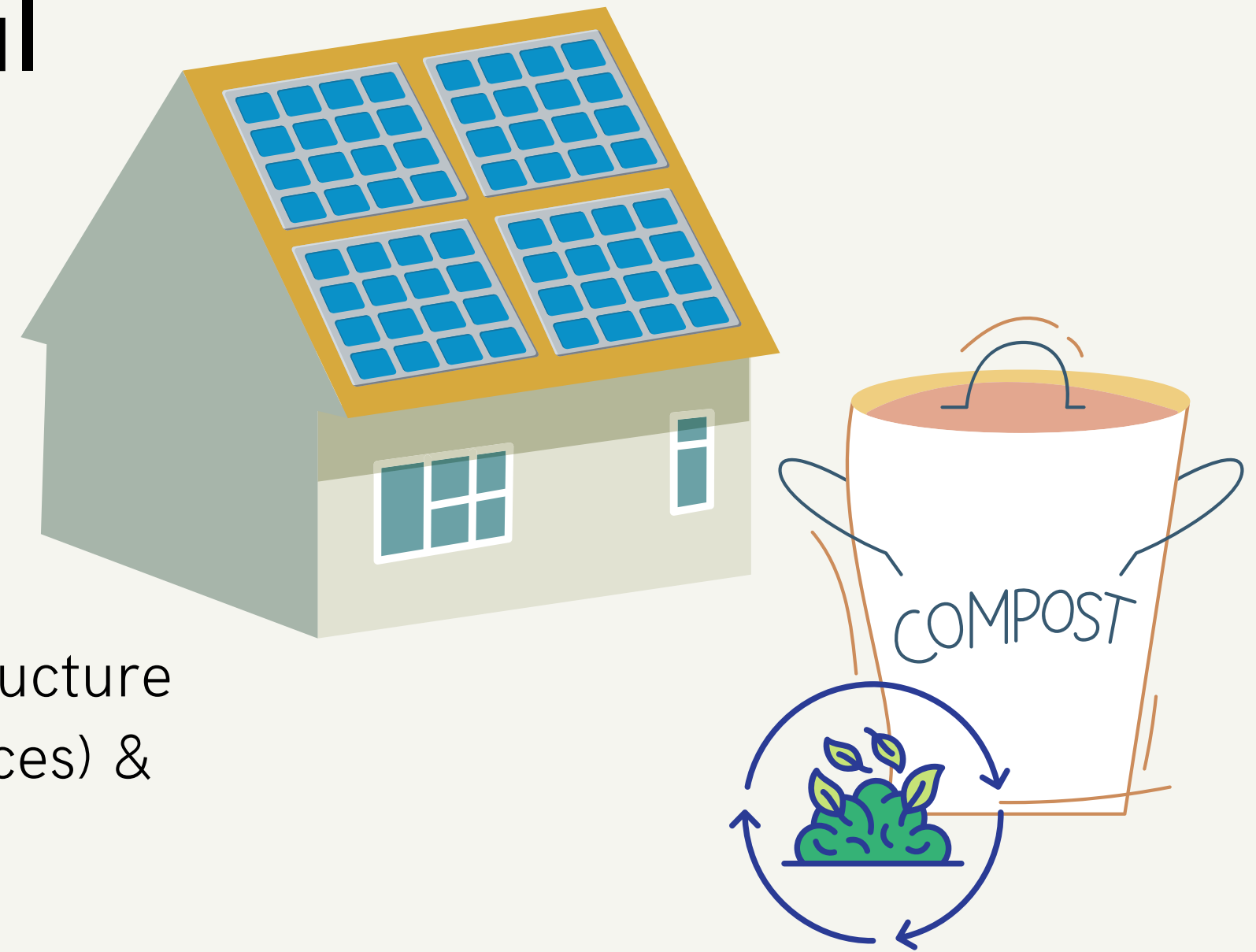
## EXERCISES

Exploring the Farm & Ideas for Self-Sufficiency



## EXAMPLES

Renewable Energy Sources, Automatic Irrigation System, Repurposing Waste & Compost



# Operating a Humidity Sensor

## STEM FIELD

Science, Technology

## EDUCATIONAL OBJECTIVES

Importance of Water Management, Water Needs of Soil using a Humidity Sensor

## MAIN CONCEPTS

Composition of the Humidity Sensor & Interpretation of the Data Obtained

## EXERCISES

Putting the Humidity Sensor to test:  
On a plant watered a week ago, on a plant watered a day before & a freshly watered plant





# Operating a Weather Station



## STEM FIELD

Science, Technology, Electronics, Microcontrollers



## EDUCATIONAL OBJECTIVES

Importance of Weather Station, Analyze & Interpret the information, Operating a Weather Station



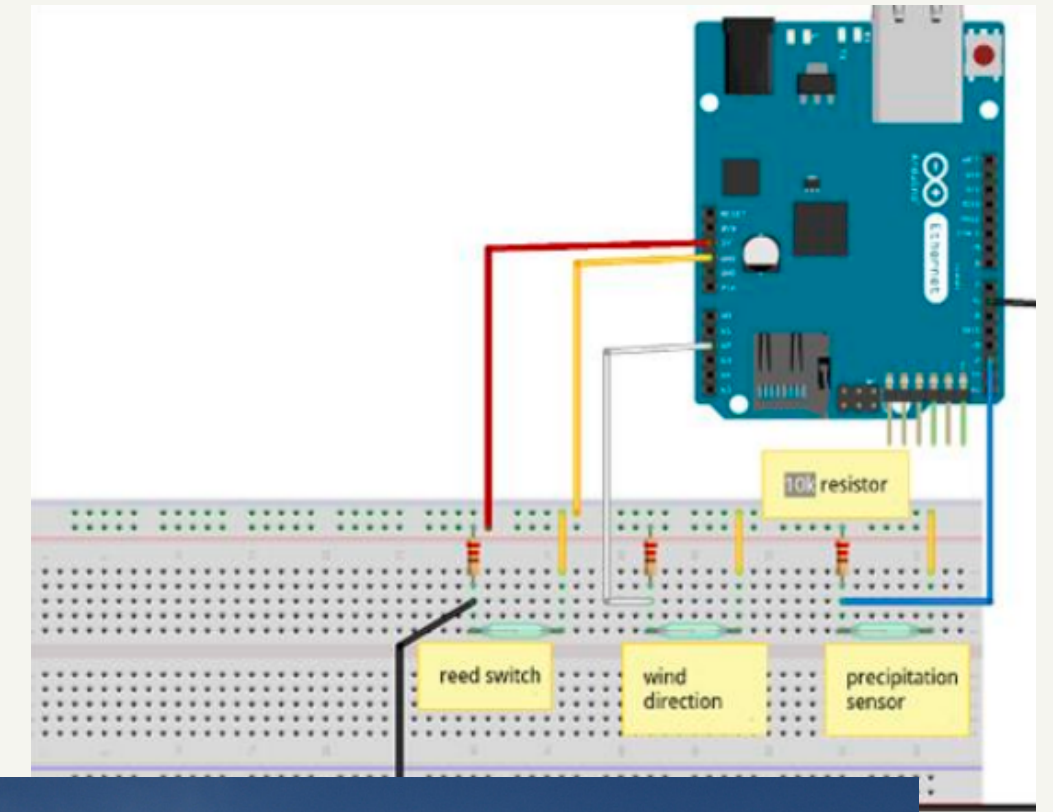
## MAIN CONCEPT

How physical events (wind, soil moisture) are translated into electrical and electronic signals



## INSIGHTS

Influence of weather conditions on agriculture, What it is used for and How an Automatic Station is formed



# Measuring the pH of soil



## STEM FIELD

Science, Technology, Biology and Electronics



## EDUCATIONAL OBJECTIVES

Teach the pH scale & Importance of the soil's pH for Agriculture



## INSIGHTS

pH in crop health (i.e. too acidic -> yellow leaves), How the probe works



## EXERCISE

Measure / Analyze results with the pH probe



# Composting

## STEM FIELD

Technology, Engineering, Life Science

## EDUCATIONAL OBJECTIVES

Composting Procedure: organic & inorganic, Life Cycles, Decomposers (microorganisms) & Importance in Agro - business

## INSIGHTS

How different objects (leaves, paper, apples, plastic) change over time

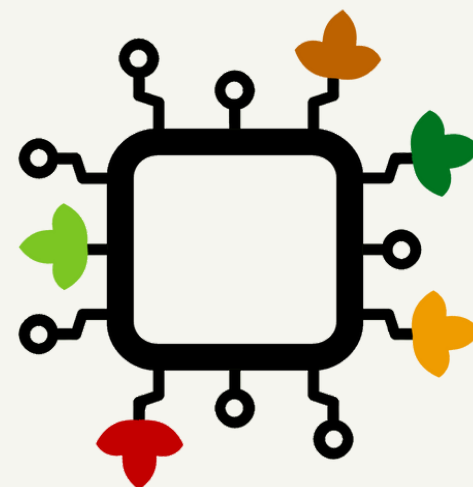
## EXERCISE

Experiment on different pieces: Hypothesis & Observation



Each Activity can be adapted depending on participants, available resources and educational objectives

LEARNING  
NEVER  
ENDS



Green  
STEAM  
Incubator

# Thank you!

QUESTIONS?



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