

# HYDROPONICS



Inclusive Hydroponic Crops



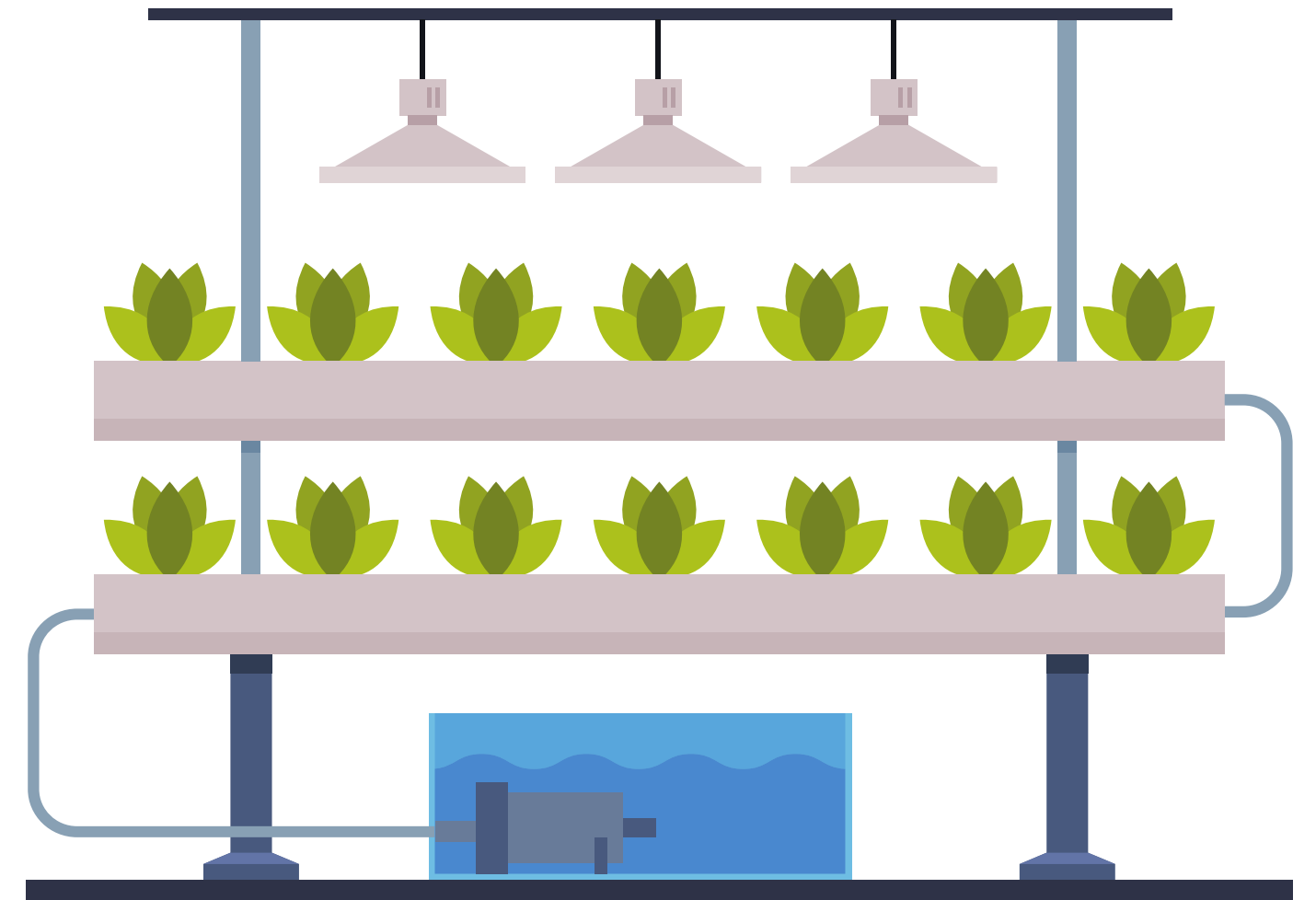
# WHAT IS HYDROPONICS?

Hydroponics is a soil-free cultivation system that allows plants to grow in nutrient-rich water solutions or in inert substrates such as coconut fiber, rock wool, or perlite. It is an efficient method that optimizes water use and allows for cultivation in small spaces, making it a sustainable alternative for food production and as a therapeutic tool.



# How does hydroponics work?

Plants are grown in a nutrient-rich aqueous solution, replacing soil with alternative media such as coconut fiber, perlite, or rockwool. The system delivers essential nutrients directly to the plant roots, ensuring optimal absorption. This method improves plant growth rate, reduces water consumption, and prevents soil-borne diseases.



# TYPES OF SUITABLE PLANTATIONS



- ✓ • *Vegetables and Garden Produce*
- ✓ • *Lettuce*
- ✓ • *Spinach*
- ✓ • *Swiss chard*
- ✓ • *Low-stemmed fruits and vegetables*
  - *Strawberries*
  - *Tomatoes cherry*
  - *Peppers*
  - *Cucumbers*
- ✓ • *Aromatic and medicinal herbs*
  - Basil*
    - *Menta*
    - *Cilantro*
    - *Parsley*
    - *Oregano*



# Suitable spaces for cultivation

**Closed spaces:** Greenhouses or rooms with artificial LED lighting



**Balconies and terraces:** Vertical systems that optimize available space.



**Gardens and patios:** Structures adapted to facilitate access for all users.



# Necessary materials

- 1 Water tank (container for nutrient solution)
- 2 Water and air pump (to maintain oxygen and water circulation)
- 3 PVC pipes or channels (for water flow systems)
- 4 Perforated pots or containers (to hold plants)
- 5 Inert substrates such as coconut fiber, perlite or rock wool
- 6 Nutrient solution with essential minerals for plant growth
- 7 Natural or artificial light (full spectrum LED lights if growing indoors)



# Guide to organic hydroponic crops



## Necessary materials

- Empty plastic bottles (1.5 or 2 liters)
- Scissors or cutter
- Nutrient solution for hydroponics (you can prepare it at home with organic fertilizers)
- Substrate (coconut fiber, perlite, vermiculite)
- Seedlings (lettuce, spinach, herbs, etc.)
- Adhesive tape or hot silicone
- Water sprinkler
- Natural light or LED grow lights

# What is the “Krafty” method?

The Krafty Method is a type of static hydroponics, where plants grow in a container with water and nutrients without the need for pumps or electricity.

It is a simple, economical and efficient technique, ideal for growing crops in small spaces.

Main features:

- Does not require expensive substrates or irrigation systems.
- The roots are submerged in a nutrient solution.
- Low maintenance and high water efficiency



# Hydroponics with plastic bottles



A variation on the Krafty Method is the use of recycled bottles as growing containers, helping to reduce pollution and promoting sustainability.

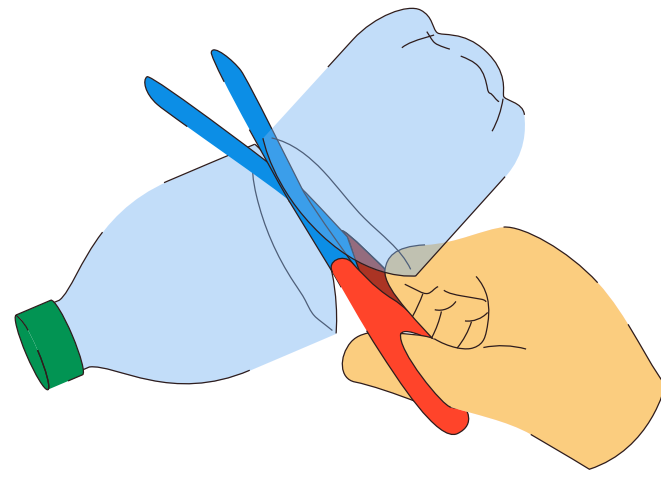


## **Benefits:**

- Recycling and reusing plastic.**
- Easy implementation in homes and schools.**
- Growing vegetables such as lettuce, spinach and basil.**



# Steps to follow



## Wash and prepare the bottles:

- Wash the bottles to remove any residue.
- Using scissors or a box cutter, cut the bottle about 2/3 of the way down, creating two pieces: the top and the bottom.



## Planting the seedlings

- Plant the seedlings ensuring contact with the substrate and nutrient solution.



## Create the drainage system:

- Make small holes in the bottle stopper to allow drainage.
- Place the top part of the inverted bottle inside the bottom part.



## Care and maintenance:

- Spray the seedlings with water regularly to maintain humidity.
- Ensure sufficient light and check the level of the nutrient solution.









# CROP SHEETS

Below are examples of crops by product.

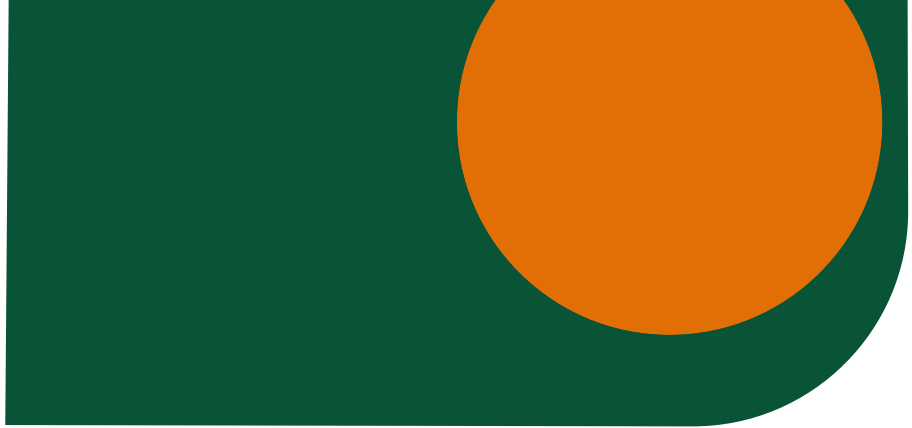








# LETTUCE

	<b>Seed:</b>	Your own or from a nursery. You can also replant the base of a lettuce.
	<b>Container:</b>	1.5L or 2L bottle (can be used as a 5L bottle for higher production).
	<b>How to plant it:</b>	Cut the bottle, fill it with nutrient solution and place the seedling with its roots in contact with the water.
	<b>Light:</b>	Plenty of sunlight (minimum 5-6 hours daily).
	<b>Growth time:</b>	30-45 days.
	<b>Best time to plant it:</b>	All year round, preferably in spring and autumn.









# CABBAGE



	<b>Seed:</b>	Your own or from a nursery. You can also replant the base of the cabbage.
	<b>Container:</b>	5L bottle (needs more space for its roots).
	<b>How to plant it:</b>	Same as lettuce, but ensuring good support for stem growth.
	<b>Light:</b>	Plenty of sunlight (minimum 6 hours daily).
	<b>Growth time:</b>	80-120 days.
	<b>Best time to plant it:</b>	Late summer or autumn.









# CARROT

	<b>Seed:</b>	Own or from a nursery. You can replant the tops of the carrots.
	<b>Container:</b>	2L or 5L bottle (needs depth to grow).
	<b>How to plant it:</b>	Cut the bottle vertically to allow root growth.
	<b>Light:</b>	Plenty of sunlight (minimum 6 hours daily).
	<b>Growth time:</b>	60-80 days.
	<b>Best time to plant it:</b>	Spring and autumn.









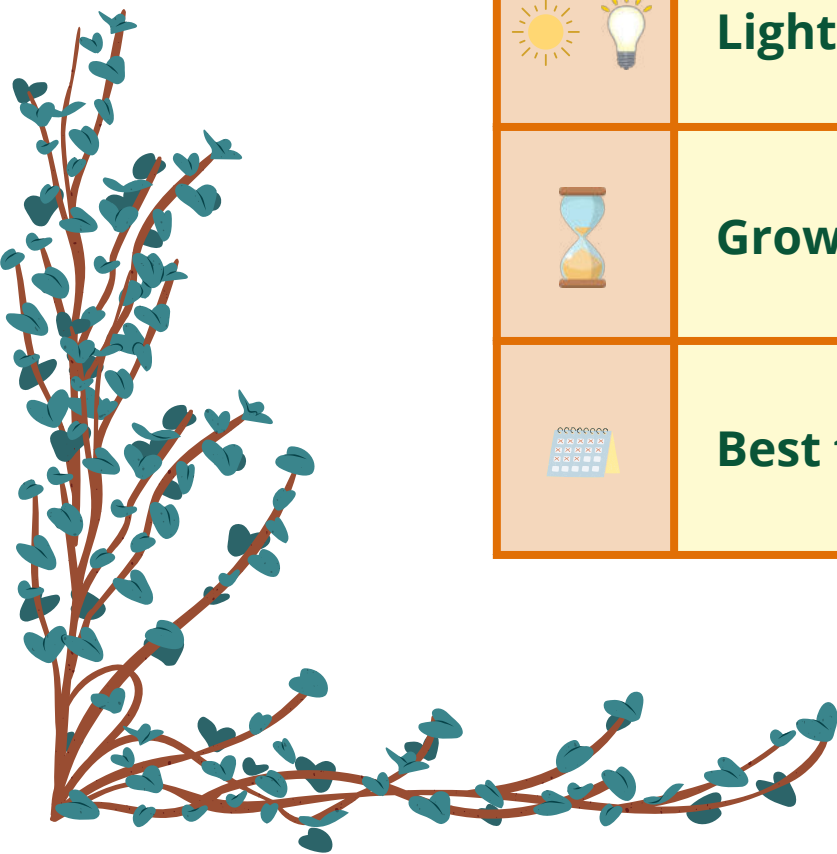
## STRAWBERRIES

	<b>Seed:</b>	From nursery or strawberry plant cuttings.
	<b>Container:</b>	1.5L or 2L bottle (better if it is hanging for greater aeration).
	<b>How to plant it:</b>	Cut the bottle, fill it with nutrient solution and place the seedling with its roots in contact with the water.
	<b>Light:</b>	Plenty of sunlight (minimum 6-8 hours daily).
	<b>Growth time:</b>	90-120 days (can bear fruit several times a year).
	<b>Best time to plant it:</b>	Spring and summer.



# AROMATIC PLANTS

	<b>Seed:</b>	From nursery or cuttings of plants
	<b>Container:</b>	1.5L or 2L bottle
	<b>How to plant it:</b>	Cut the bottle, place the plant with roots in contact with the water.
	<b>Light:</b>	Moderate to high light (4-6 hours daily, depending on the plant).
	<b>Growth time:</b>	30-60 days.
	<b>Best time to plant it:</b>	All year round (protected from the intense cold).



# Explanatory videos

[HIDROPÓNICO casero paso a paso](#)  
[Huerto urbano en casa.](#)  
[How to make a homemade HYDROPONIC GROWING system step by step](#) Urban garden at home.

## [EXPLANATORY VIDEOS](#)

[TOP 5 Homemade Hydroponics Systems You Can Build Yourself Step by Step | DIY](#)  
<https://www.youtube.com/watch?v=fSBcc2DwELM>





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