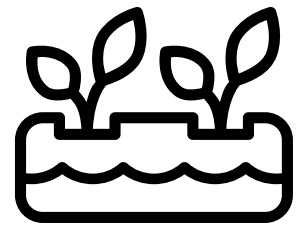# LETS LEARN ABOUT
HYDROPONICS

"Hydro" is a Greek word meaning
WATER

"Ponics" is a Greek word meaning
WORKING

Over **320** years ago!

IN THE YEAR 1699

British scientist John Woodward grew plants in water to which he added varying amounts of soil. He discovered that there are nurtients found in soil that promote plant growth, but the bulk of the soil is used for support!

WHY HYDROPONICS?

LESS MESS
Soil can cause classroms, homes and even gardens to become quite messy. On top of that, it can be an allergin for some!

ANY SEASON
Cold weather/frozen planting ground will no longer be a barrier. Everything is provided indoors for the plant in a temperature controlled enviornment!

LESS WATER
Using up to 90% less water. How? The water used is recycled through the system over and over!

40% FASTER
This is because the plants can absorb all the nutrients with minimal effort. Resulting in faster growing!

LESS SPACE
You do not need acres of land. Plants can be grown vertically, or even in an apartment with systems like the Sucseed Grow Garden!

HOW DOES IT WORK?

The plants are essentially sitting in a "bathtub" of nurtients. Plants need 13+ nutrients to survive (listed below), which can all be added to water to be absorbed by the plants.

The next essential to plant growth is light, whcih can be supplimented artifically through grow lights.

Oxygen is the final component of what a plant needs to survive. In systems like the Sucseed Grow Gardens, we use airstone and a pump to oxygenate the water so it can be absorbed by the plant.
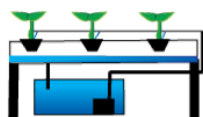
Essential Nutrients: Nitrogen (N), Potassium (K), Phosphorus (P), Calcium (Ca), Magnesium (Mg), Sulphur (S), Iron (Fe), Manganese (Mn), Copper (Cu), Zinc (Zn), Molybdate (Mo), Boron (B), Chlorine (Cl)

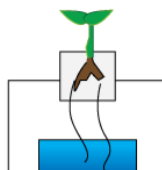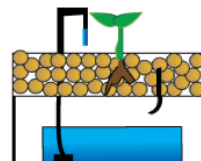## TYPES OF HYDROPONIC SYSTEMS

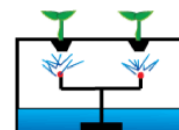DEEP WATER CULTURE (DWC)

DRIP SYSTEMS

WICK SYSTEMS

EB AND FLOW (FLOOD AND DRAIN)

AEROPONICS

NUTRUENT FILM TECHNIQUE (NFT)