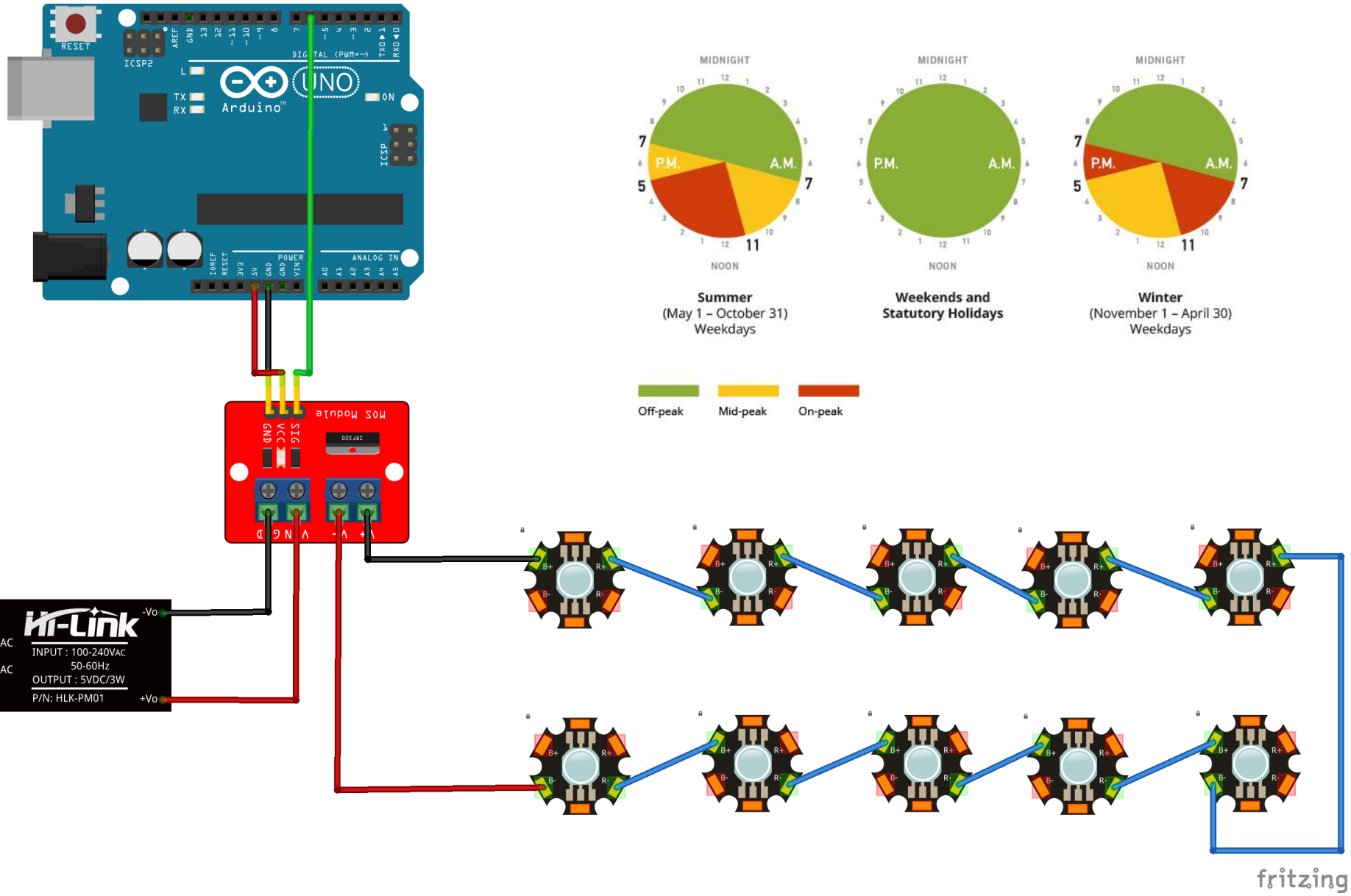
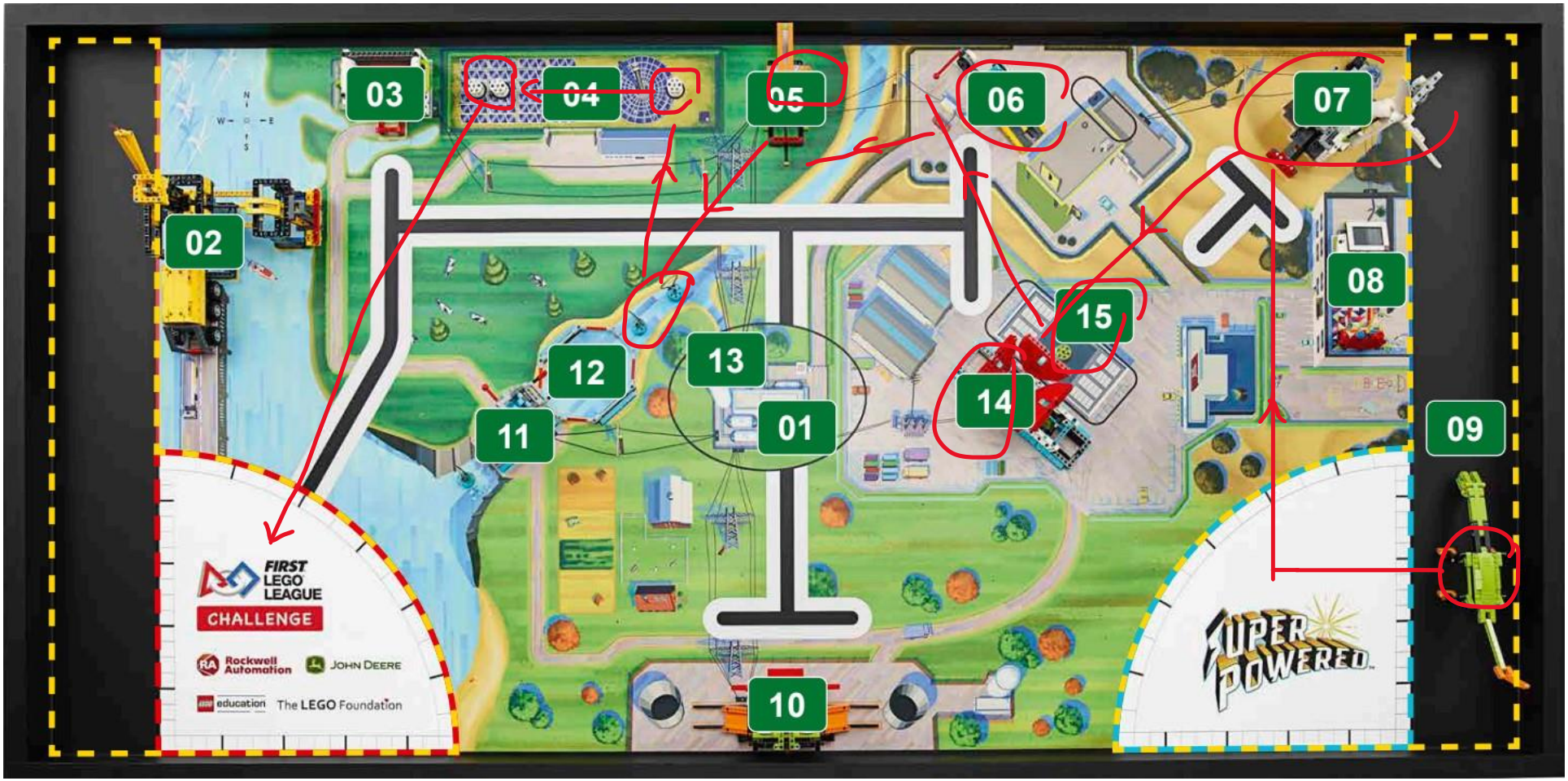

RESET
ICSP2
UNO
Arduino
DIGITAL (PWM=~)
POWER
ANALOG IN
ICSP
ON
TX
RX
MOS Module
GND
VCC
SIG
Hi-Link
AC
AC
INPUT : 100-240VAC
50-60Hz
OUTPUT : 5VDC/3W
P/N: HLK-PM01
-Vo
+Vo
MIDNIGHT
NOON
P.M.
A.M.
Summer
(May 1 – October 31)
Weekdays
Weekends and
Statutory Holidays
Winter
(November 1 – April 30)
Weekdays
Off-peak
Mid-peak
On-peak
fritzing

More

Girls

in STEM

Missions Plan



4 Runs, max. possible pts = 350

Research Activities

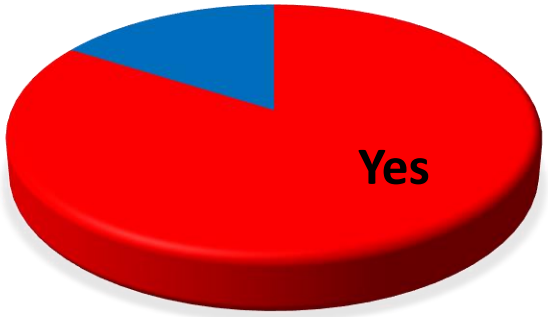
Internet

Google

YouTube

COP26

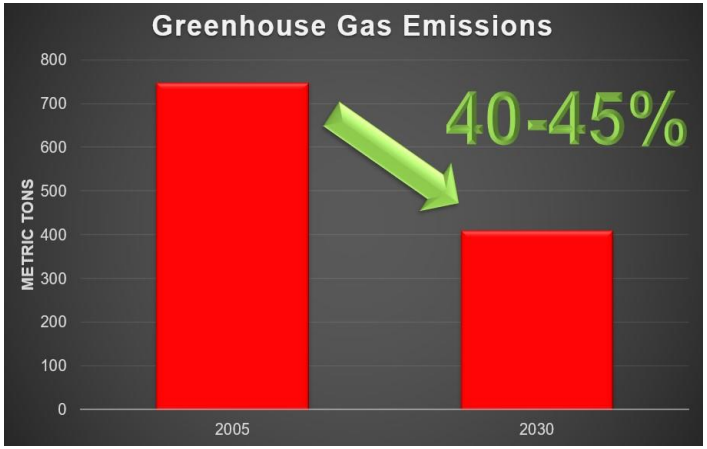
Survey

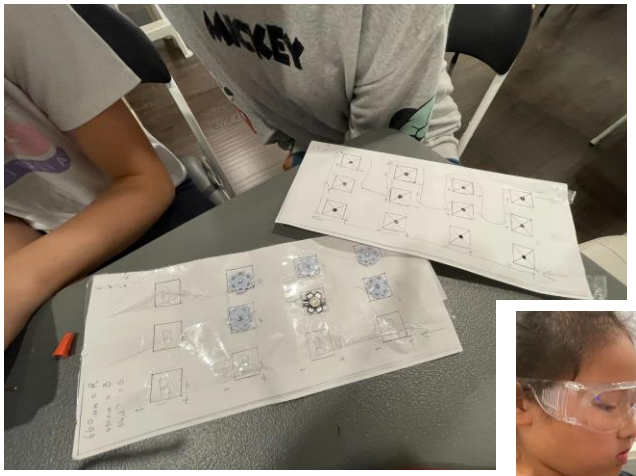


In favor of vertical farming

Site Visit

Sobeys inc.



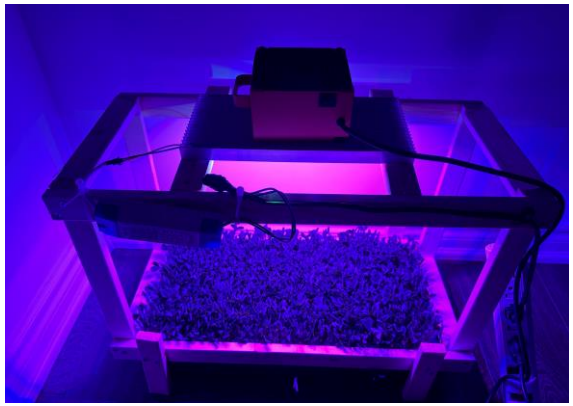


Grown Light

Circuitry Planning

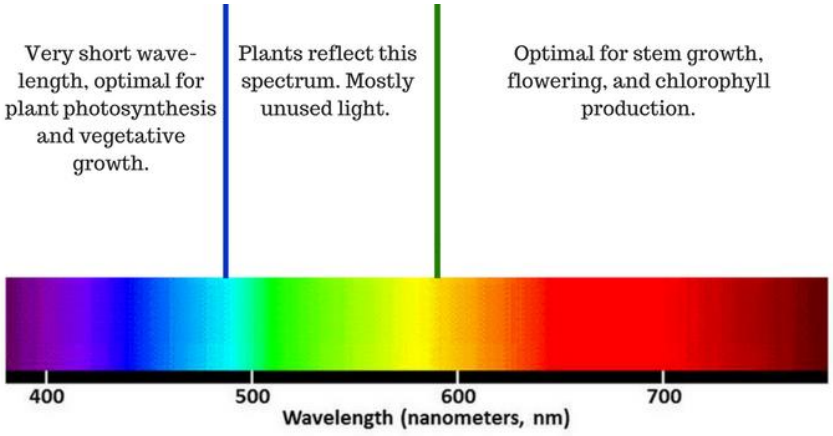
Soldering in Progress

Farm Structure Assembly

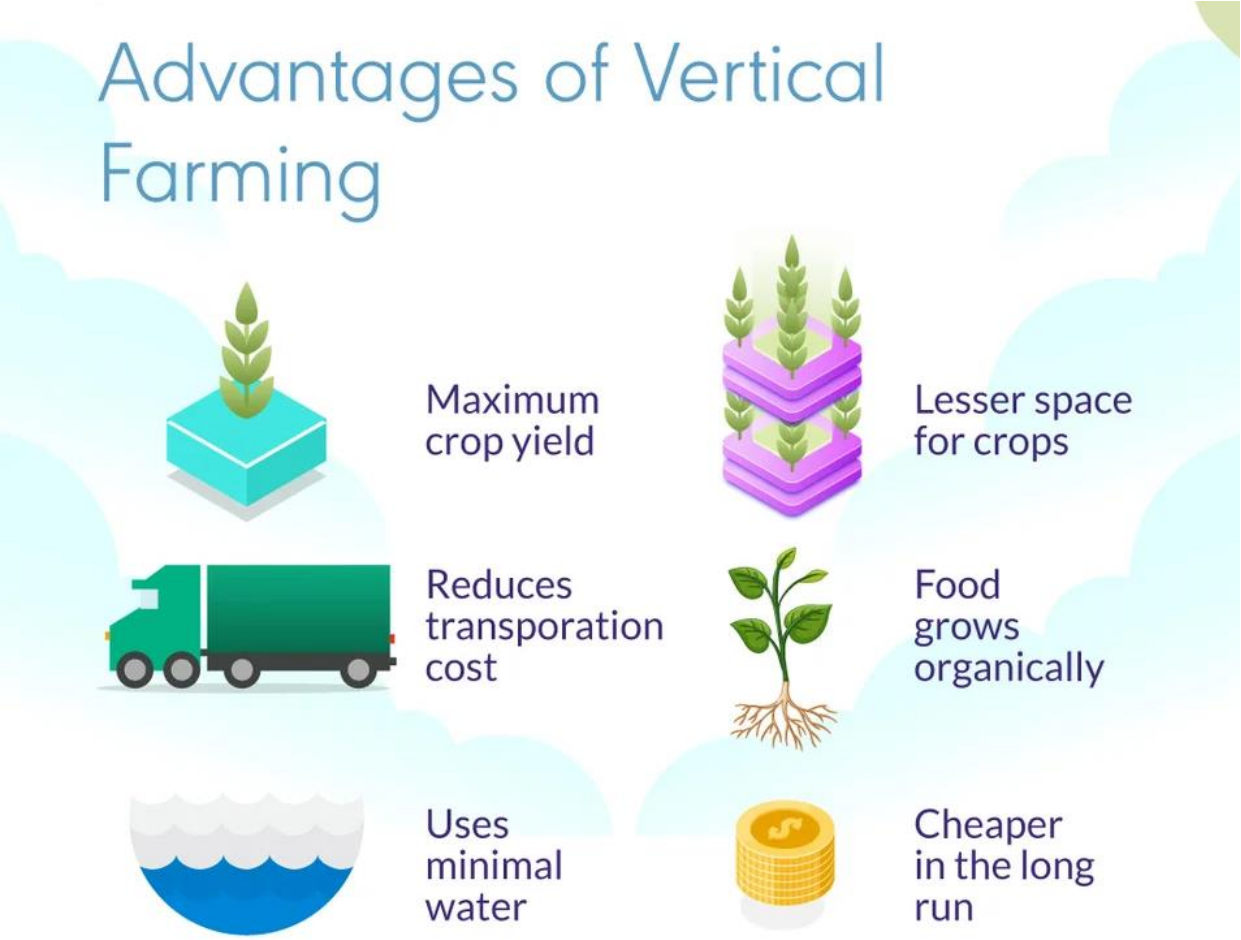


SuperPowered Girls

Vertical Farm



Light Spectrum and Plant Growth



	Vertical Farming	Traditional Farming
Land Use	Small space friendly, vertical farming	Large areas of farmland, horizontal farming
Water Use	Fewer water resources are used	Water use can vary, but generally, is higher
Energy Use	Often high energy use (but renewable)	Moderate energy use (if well managed)
GHG Emissions	Relatively low GHG emissions (with the right strategies)	Relatively high GHG emissions
Pollution and Ecosystem	Minimal pollution and ecosystem degradation	Most farming damages the environment
Supply Chains	Decentralized food production system	Centralized food production system

Vertical Farming

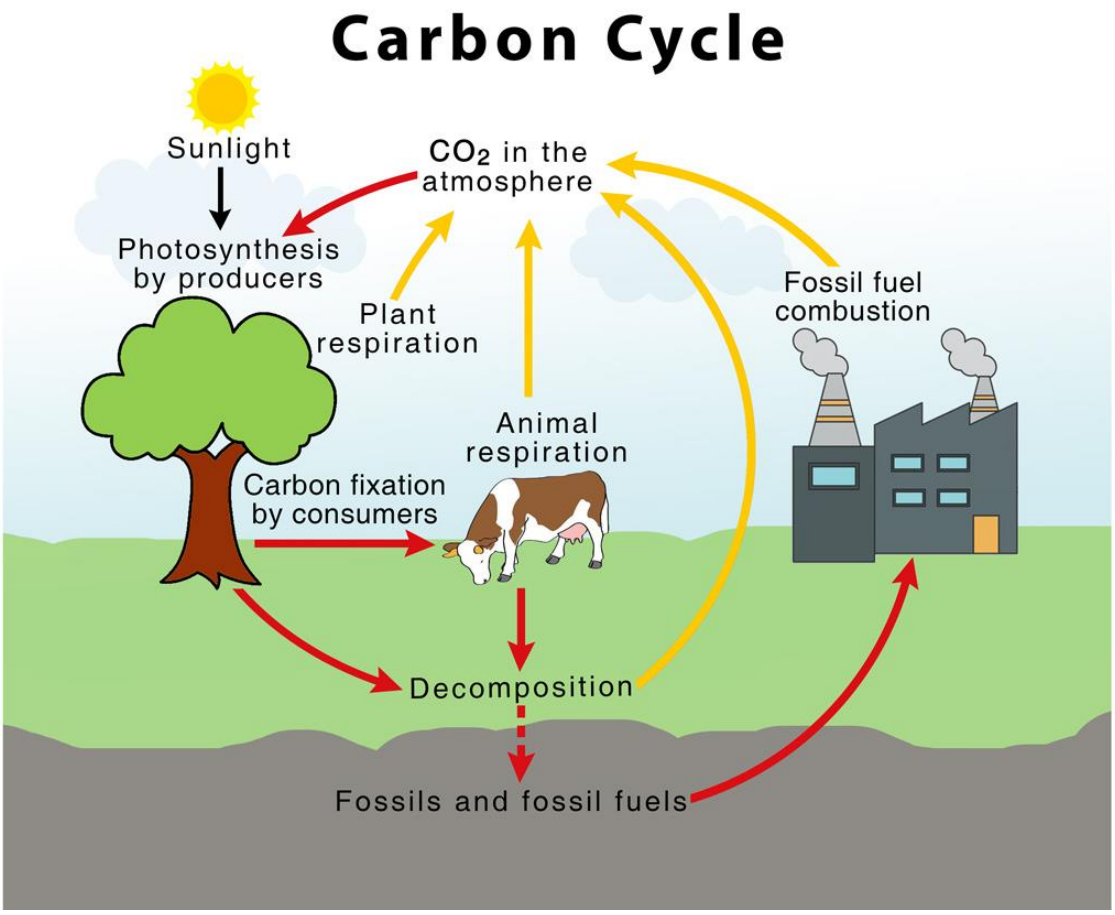
Good, but

Energy Consumption

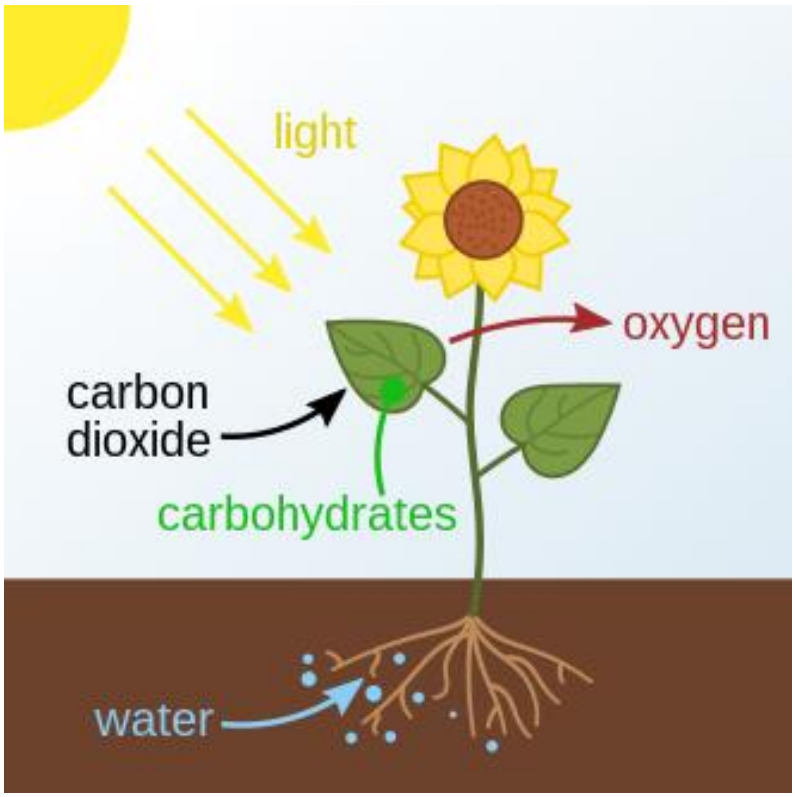
High

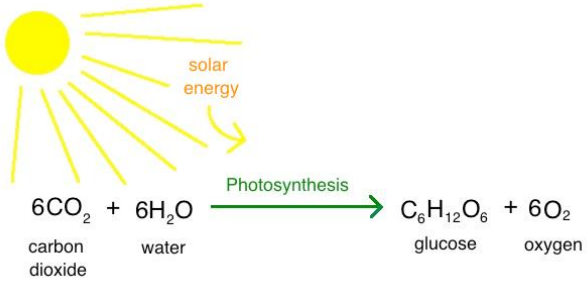
Solution ?

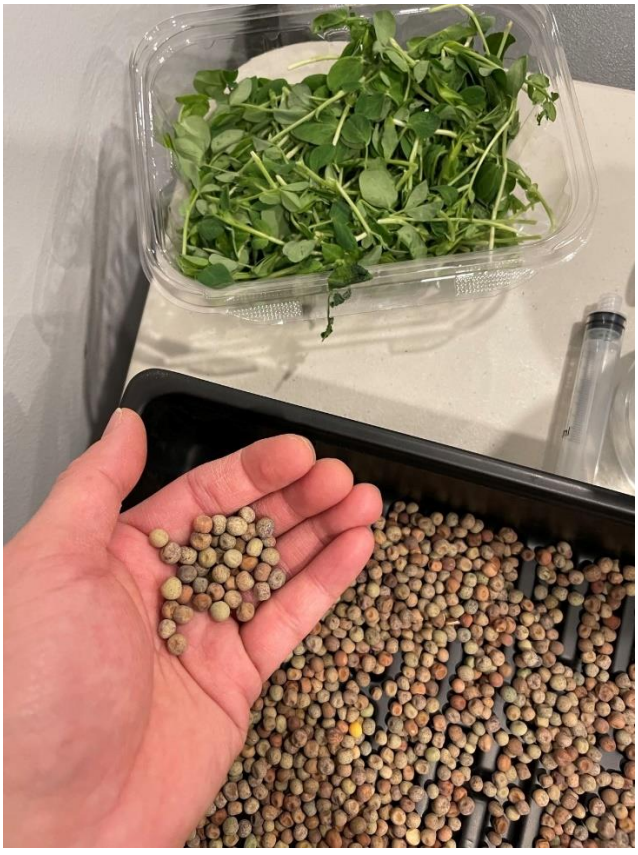
Partnership



Photosynthesis cycle







GOOD LEAF

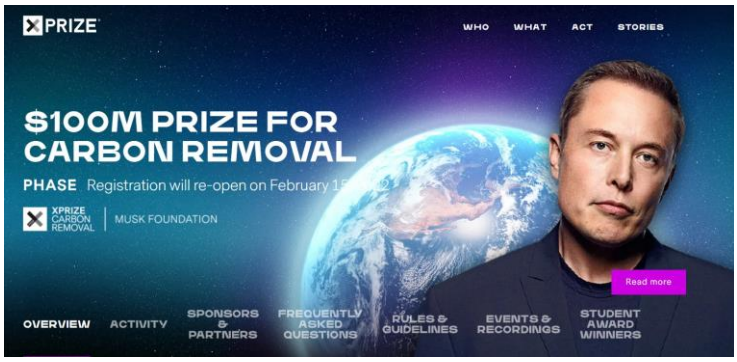
Vertically Farmed. Straight-up Good.™

Partnership

Energy Consumption

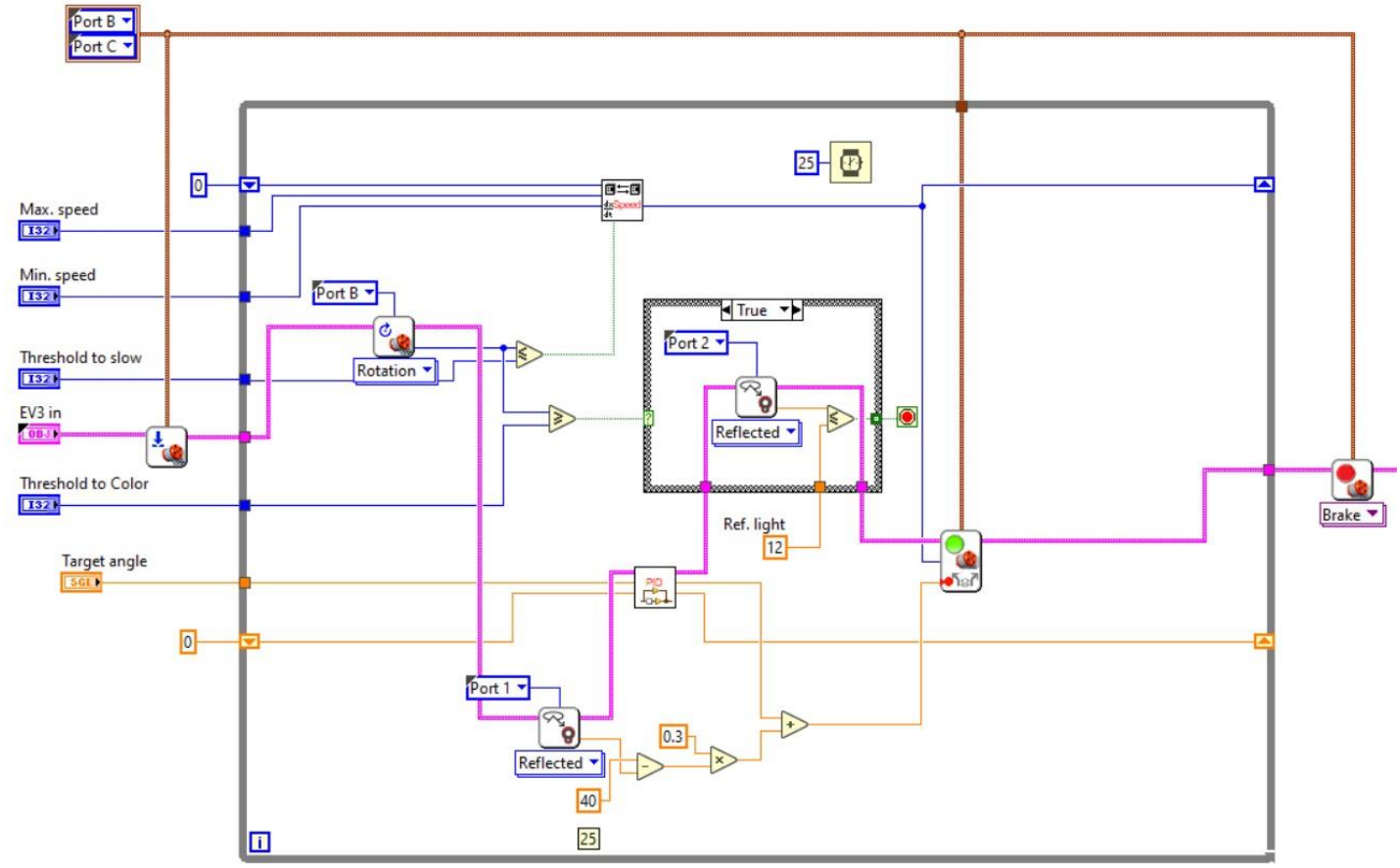
GHG Emissions

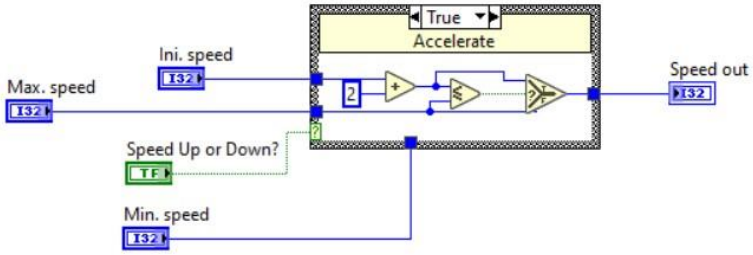
Inspired by

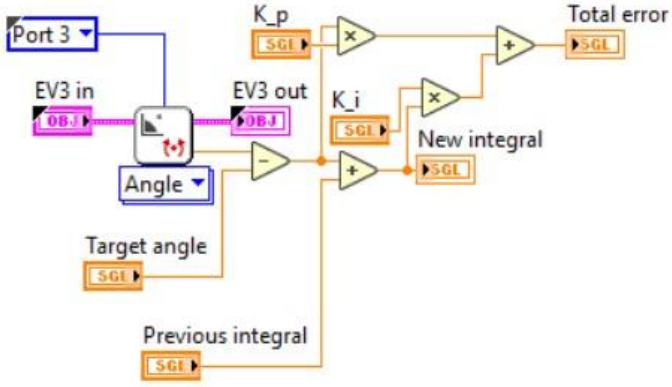


Exploration

Carbon Capture in Vertical Farming







POWERED BY LabVIEW

Underlying program of EV3-G