ELECTRONICS

Skill Tree: Color in the boxes and level up your skills

Use for individuals or as a group by picking a colour each and coloring in a part of the box. Everyone's journey is different and you can interpret the goals flexibly. The aim is to inspire you to learn and try new things. Not everything needs to be completed.

ADVANCED

(set your own goal)

(set your own goal)

(set your own goal)

(set your own goal)

(set your own goal)

Write your own C/C++ library for a sensor from scratch

Create an FPGA Project

Use capacitive touch in a PCB design

Teach a class on Electronics

Make a switch mode power supply

Make something with PCB Art

Make an open source project

Release a tutorial on a project you've made

Make an electronic sculpture

Learn PCB Design Software

Build a Radio Frequency (RF) Project

Make a PID circuit with Op-Amps

Order a PCB with your design

Use an e-paper display in a project

Use a freqency analyser for a project

Use automatic gain control

Repair a broken trace on a PCB

Filter unwanted noise from a signal

Use a MOSFET instead of a relay in a project

Make your own USB cable

Use an LED matrix in a project

Use a surge diode to project a circuit

Make a regulated power supply

Make an Internet of Things (IoT) project

Measure voltage with an oscilloscope

Make something with a 7 segment display

Measure capacitor equivalent series resistance

Look at an audio input on an oscilloscope

Make something with solar panels

Teach a friend an electronics skill

Use a crowbar circuit to protect against over voltage

Make a motor controller with a H Bridge

Make a counter with logic gates

Make something for a friend

Let the smoke out of an Arduino accidentally

Measure frequency with a multimeter

Apply solder paste to a PCB with a stencil

Use an Op-Amp in a circuit

Make something with Arduino

Make a capacitor rocket (too much voltage)

Use fritzing or TinkerCAD to create a circuit diagram

Let the smoke out accidentally

Make a project with a Raspberry Pi

Learn to solder surface mount parts

Use addressable RGB LEDs in a project

Use a 555 timer in a circuit

Use a relay to switch something on at a higher voltage

Use a diode to protect your circuit from reverse voltages

Make a sound louder with an amplifier

Measure current with a multimeter

Make a voltage divider to lower the voltage for a project

Make an oscillator that makes noise

Turn a breadboard circuit into a schematic

Turn something on using a sensor

Fix something that's broken

Make something that makes noise

Measure voltage with a multimeter

Learn to desolder a through hole component

Learn to read a datasheet

Learn to control the brightness of an LED

Get a circuit wrong and try again

Learn Ohm's Law

Learn to use wire strippers

Complete an electronics kit

Learn to use a breadboard

Learn to read a schematic

Light up an LED for the first time

Learn to Solder

BASICS

START HERE

1 tile = 1 point

Total Score

Name: _____