



---

**NAME:**

---

## Setup: Scratch GPIO (workshop version)

---



Explains how to setup Scratch GPIO.

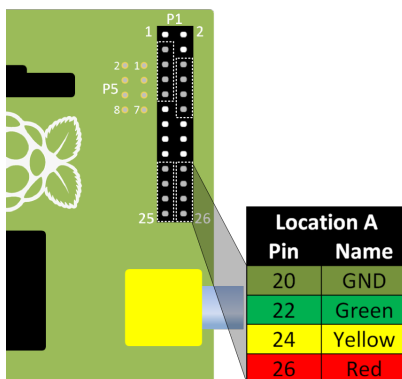
*You must perform this step in order to use the **Pi-Stop** with Scratch.*



I have installed Scratch GPIO!



I have powered down the Raspberry Pi and fitted the Pi-Stop in Location A



I have tested Scratch GPIO with the Pi-Stop and it works!

## Explore and Challenge Scratch GPIO: Pi-Stop First Steps

---



Introduces how to use Scratch and using Scratch GPIO.

*If you are already familiar with Scratch you can skip this.*



I now know the different parts of Scratch

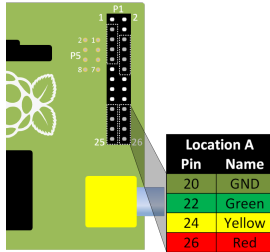


Scratch GPIO with a Flashing RED Light Completed!

# Explore and Challenge Scratch GPIO: Pi-Stop Traffic Sequence

Create your own traffic light sequence and learn how to use Scratch GPIO with the **Pi-Stop**.

**WORKSHEET:** Colour in the correct traffic light order below, then fill in the required **broadcast** commands **on** or **off**. Use the following diagram to determine which pins are connected with each colour on the traffic light.



First the traffic light sequence for changing from **STOP** to **GO**.

## STOP



## PREPARE TO GO



## Wait

To stop the lights changing instantly, we need to wait before we change them again!



## GO



Traffic Light Sequence STOP to GO

---

Next the traffic light sequence for changing from **GO** back to **STOP**.

## GO



---

## PREPARE TO STOP



---

## Wait

Again, to stop the lights changing instantly, we need to wait.



---

## STOP



Traffic Light Sequence GO to STOP

---

I've created the Pi-Stop STOP and GO sequences

I've created the Pi-Stop the full Traffic Light Sequence

Extended Task: Created a racing start light control

Extended Task: Controlled two Pi-Stops at the same time!

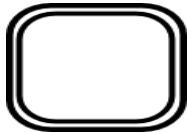
## Explore and Challenge Scratch GPIO: Pi-Stop Reaction Game

---

How fast are your reflexes? Test your reaction time with the Pi-Stop Reaction game.

**WORKSHEET:** Tick the checkbox marked "I've created the Pi-Stop Reaction Game".

*Don't forget to write down your best score!*



## Explore and Challenge Scratch GPIO: Pi-Stop Simon Memory Game

---

Challenge your memory and get the highest score!

**WORKSHEET:** Tick the checkbox marked "The first part of the Pi-Stop Simon Memory Game works!".

**WORKSHEET:** Tick the checkbox marked "I've created the Pi-Stop Simon Memory Game".

*Don't forget to write down your best score!*



---

**Congratulations: You have reached the end of the workshop!**

**pi-Stop™**

I hope you enjoyed it.

Remember the **Pi-Stop** will be available to buy from [www.4tronix.co.uk](http://www.4tronix.co.uk), and additional material and guides will be available from my website [www.PiHardware.com](http://www.PiHardware.com)

To reserve your own Pi-Stops, to enquire about **classroom/workshop packs**, or for Raspberry Pi help/advice:

Contact me (Tim Cox) at [pihw-orders@hotmail.co.uk](mailto:pihw-orders@hotmail.co.uk)

My *Raspberry Pi Python Cookbook for Python Programmers* is available to buy:

<http://goo.gl/dmVtsc>

