



NAME:

Setup: Scratch GPIO (workshop version)

Explains how to setup Scratch GPIO.

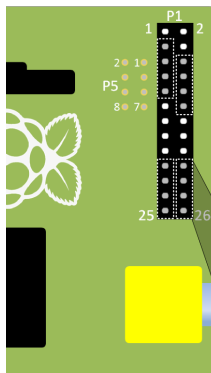
*You must perform this step in order to use the **Pi-Stop** with Scratch.*



I have installed Scratch GPIO!



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



| Location A | |
|------------|--------|
| Pin | Name |
| 20 | GND |
| 22 | Green |
| 24 | Yellow |
| 26 | Red |



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

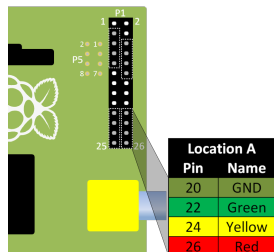


Scratch GPIO with a Flashing RED Light Completed!

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!



I hope you enjoyed it.

Remember the **Pi-Stop** will be available to buy from www.4tronix.com, and additional material and guides will be available from my website 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

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

<http://goo.gl/dmVtsc>

